The Bancroft Library

University of California • Berkeley

From the Bequest

of

Dorothy K. Thomas

Cat. A.

CAPITAL.

Digitized by the Internet Archive
in 2007 with funding from
Microsoft Corporation

http://www.archive.org/details/capitalcriticala02marxrich

Beatrice Potter.

CAPITAL:

A CRITICAL ANALYSIS OF CAPITALIST PRODUCTION

By KARL MARX

TRANSLATED FROM THE THIRD GERMAN EDITION, BY SAMUEL MOORE AND EDWARD AVELING

AND EDITED BY

FREDERICK ENGELS

VOL. II.

LONDON:
SWAN SONNENSCHEIN, LOWREY, & CO.,
PATERNOSTER SQUARE.
1887.

S. Cowan & Co., Strathmore Printing Works, Perth.

CAPITALIST PRODUCTION.

PART IV.—*(Continued.)*

PRODUCTION OF RELATIVE SURPLUS-VALUE.

CHAPTER XV.

MACHINERY AND MODERN INDUSTRY.

SECTION 1.—THE DEVELOPMENT OF MACHINERY.

JOHN STUART MILL says in his Principles of Political Economy: "It is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being."[1] That is, however, by no means the aim of the capitalistic application of machinery. Like every other increase in the productiveness of labour, machinery is intended to cheapen commodities, and, by shortening that portion of the working-day, in which the labourer works for himself, to

[1] Mill should have said, "of any human being not fed by other people's labour," for, without doubt, machinery has greatly increased the number of well-to-do idlers.

lengthen the other portion that he gives, without an equivalent, to the capitalist. In short, it is a means for producing surplus-value.

In manufacture, the revolution in the mode of production begins with the labour-power, in modern industry it begins with the instruments of labour. Our first inquiry then is, how the instruments of labour are converted from tools into machines, or what is the difference between a machine and the implements of a handicraft? We are only concerned here with striking and general characteristics; for epochs in the history of society are no more separated from each other by hard and fast lines of demarcation, than are geological epochs.

Mathematicians and mechanicians, and in this they are followed by a few English economists, call a tool a simple machine, and a machine a complex tool. They see no essential difference between them, and even give the name of machine to the simple mechanical powers, the lever, the inclined plane, the screw, the wedge, &c.[1] As a matter of fact, every machine is a combination of those simple powers, no matter how they may be disguised. From the economical standpoint this explanation is worth nothing, because the historical element is wanting. Another explanation of the difference between tool and machine is that in the case of a tool, man is the motive power, while the motive power of a machine is something different from man, is, for instance, an animal, water, wind, and so on.[2] According to this, a plough drawn by oxen, which is a contrivance common to the most different epochs, would be a machine, while Claussen's circular loom, which, worked by a single labourer, weaves 96,000 picks per minute, would be a mere tool. Nay, this very loom, though a tool when worked by hand, would, if worked by steam, be a machine. And since the application of animal power is one of man's earliest inven-

[1] See, for instance, Hutton: "Course of Mathematics."

[2] "From this point of view we may draw a sharp line of distinction between a tool and a machine: spades, hammers, chisels, &c., combinations of levers and of screws, in all of which, no matter how complicated they may be in other respects, man is the motive power, ... all this falls under the idea of a tool; but the plough, which is drawn by animal power, and windmills, &c., must be classed among machines." (Wilhelm Schulz: "Die Bewegung der Produktion. Zürich, 1843," p. 38.) In many respects a book to be recommended.

tions, production by machinery would have preceded production by handicrafts. When in 1735, John Wyalt brought out his spinning machine, and began the industrial revolution of the 18th century, not a word did he say about an ass driving it instead of a man, and yet this part fell to the ass. He described it as a machine "to spin without fingers."[1]

All fully developed machinery consists of three essentially different parts, the motor mechanism, the transmitting mechanism, and finally the tool or working machine. The motor mechanism is that which puts the whole in motion. It either generates its own motive power, like the steam engine, the caloric engine, the electro-magnetic machine, &c., or it receives its impulse from some already existing natural force, like the water-wheel from a head of water, the wind-mill from wind, &c. The transmitting mechanism, composed of fly-wheels, shafting, toothed wheels, pullies, straps, ropes, bands, pinions, and gearing of the most varied kinds, regulates the motion, changes its form where necessary, as for instance, from linear to circular, and divides and distributes it among the working machines. These two first parts of the whole mechanism are there, solely for putting the working machines in motion, by means of which motion the subject of labour is seized upon

[1] Before his time, spinning machines, although very imperfect ones, had already been used, and Italy was probably the country of their first appearance. A critical history of technology would show how little any of the inventions of the 18th century are the work of a single individual. Hitherto there is no such book. Darwin has interested us in the history of Nature's Technology, *i.e.*, in the formation of the organs of plants and animals, which organs serve as instruments of production for sustaining life. Does not the history of the productive organs of man, of organs that are the material basis of all social organisation, deserve equal attention? And would not such a history be easier to compile, since, as Vico says, human history differs from natural history in this, that we have made the former, but not the latter? Technology discloses man's mode of dealing with Nature, the process of production by which he sustains his life, and thereby also lays bare the mode of formation of his social relations, and of the mental conceptions that flow from them. Every history of religion even, that fails to take account of this material basis, is uncritical. It is, in reality, much easier to discover by analysis the earthly core of the misty creations of religion, than, conversely, it is, to develop from the actual relations of life the corresponding celestialised forms of those relations. The latter method is the only materialistic, and therefore the only scientific one. The weak points in the abstract materialism of natural science, a materialism that excludes history and its process, are at once evident from the abstract and ideological conceptions of its spokesmen, whenever they venture beyond the bounds of their own speciality.

and modified as desired. The tool or working-machine is that part of the machinery with which the industrial revolution of the 18th century started. And to this day it constantly serves as such a starting point, whenever a handicraft, or a manufacture, is turned into an industry carried on by machinery.

On a closer examination of the working-machine proper, we find in it, as a general rule, though often, no doubt, under very altered forms, the apparatus and tools used by the handicrafts-man or manufacturing workman; with this difference, that instead of being human implements, they are the implements of a mechanism, or mechanical implements. Either the entire machine is only a more or less altered mechanical edition of the old handicraft tool, as, for instance, the power-loom;[1] or the working parts fitted in the frame of the machine are old acquaintances, as spindles are in a mule, needles in a stocking-loom, saws in a sawing machine, and knives in a chopping machine. The distinction between these tools and the body proper of the machine, exists from their very birth; for they continue for the most part to be produced by handicraft, or by manufacture, and are afterwards fitted into the body of the machine, which is the product of machinery.[2] The machine proper is therefore a mechanism that, after being set in motion, performs with its tools the same operations that were formerly done by the workman with similar tools. Whether the motive power is derived from man, or from some other machine, makes no difference in this respect. From the moment that the tool proper is taken from man, and fitted into a mechanism, a machine takes the place of a mere implement. The difference strikes one at once, even in those cases where man himself continues to be the prime mover. The number of implements that he himself can use simultaneously, is limited by the

[1] Especially in the original form of the power-loom, we recognise, at the first glance, the ancient loom. In its modern form, the power-loom has undergone essential alterations.

[2] It is only during the last 15 years (*i.e.*, since about 1850), that a constantly increasing portion of these machine tools have been made in England by machinery, and that not by the same manufacturers who make the machines. Instances of machines for the fabrication of these mechanical tools are, the automatic bobbin-making engine, the card-setting engine, shuttle-making machines, and machines for forging mule and throstle spindles.

number of his own natural instruments of production, by the number of his bodily organs. In Germany, they tried at first to make one spinner work two spinning wheels, that is, to work simultaneously with both hands and both feet. This was too difficult. Later, a treddle spinning wheel with two spindles was invented, but adepts in spinning, who could spin two threads at once, were almost as scarce as two-headed men. The Jenny, on the other hand, even at its very birth, spun with 12-18 spindles, and the stocking-loom knits with many thousand needles at once. The number of tools that a machine can bring into play simultaneously, is from the very first emancipated from the organic limits that hedge in the tools of a handicraftsman.

In many manual implements the distinction between man as mere motive power, and man as the workman or operator properly so-called, is brought into striking contrast. For instance, the foot is merely the prime mover of the spinning wheel, while the hand, working with the spindle, and drawing and twisting, performs the real operation of spinning. It is this last part of the handicraftsman's implement that is first seized upon by the industrial revolution, leaving to the workman, in addition to his new labour of watching the machine with his eyes and correcting its mistakes with his hands, the merely mechanical part of being the moving power. On the other hand, implements, in regard to which man has always acted as a simple motive power, as, for instance, by turning the crank of a mill,[1] by pumping, by moving up and down the arm of a bellows, by pounding with a mortar, &c., such implements soon call for the application of animals, water,[2] and wind as

[1] Moses says: "Thou shalt not muzzle the ox that treads the corn." The Christian philanthropists of Germany, on the contrary, fastened a wooden board round the necks of the serfs, whom they used as a motive power for grinding, in order to prevent them from putting flour into their mouths with their hands.

[2] It was partly the want of streams with a good fall on them, and partly their battles with superabundance of water in other respects, that compelled the Dutch to resort to wind as a motive power. The windmill itself they got from Germany, where its invention was the origin of a pretty squabble between the nobles, the priests, and the emperor, as to which of those three the wind "belonged." The air makes bondage, was the cry in Germany, at the same time that the wind was making Holland free. What it reduced to bondage in this case, was not the Dutchman, but the land

motive powers. Here and there, long before the period of manufacture, and also, to some extent, during that period, these implements pass over into machines, but without creating any revolution in the mode of production. It becomes evident, in the period of Modern Industry, that these implements, even under their form of manual tools, are already machines. For instance, the pumps with which the Dutch, in 1836-7, emptied the Lake of Harlem, were constructed on the principle of ordinary pumps; the only difference being, that their pistons were driven by cyclopean steam-engines, instead of by men. The common and very imperfect bellows of the blacksmith is, in England, occasionally converted into a blowing-engine, by connecting its arm with a steam-engine. The steam-engine itself, such as it was at its invention, during the manufacturing period at the close of the 17th century, and such as it continued to be down to 1780,[1] did not give rise to any industrial revolution. It was, on the contrary, the invention of machines that made a revolution in the form of steam-engines necessary. As soon as man, instead of working with an implement on the subject of his labour, becomes merely the motive power of an implement-machine, it is a mere accident that motive power takes the disguise of human muscle; and it may equally well take the form of wind, water or steam. Of course, this does not prevent such a change of form from producing great technical alterations in the mechanism that was originally constructed to be driven by man alone. Nowadays, all machines that have their way to make, such as sewing machines, bread-making machines, &c., are, unless from their very nature their use on a small scale is excluded, constructed to be driven both by human and by purely mechanical motive power.

The machine, which is the starting point of the industrial revolution, supersedes the workman, who handles a single tool, by a mechanism operating with a number of similar tools, and

for the Dutchman. In 1836, 12,000 windmills of 6000 horse-power were still employed in Holland, to prevent two-thirds of the land from being reconverted into morasses.

[1] It was, indeed, very much improved by Watt's first so-called single acting engine; but, in this form, it continued to be a mere machine for raising water, and the liquor from salt mines.

set in motion by a single motive power, whatever the form of that power may be.[1] Here we have the machine, but only as an elementary factor of production by machinery.

Increase in the size of the machine, and in the number of its working tools, calls for a more massive mechanism to drive it; and this mechanism requires, in order to overcome its resistance, a mightier moving power than that of man, apart from the fact that man is a very imperfect instrument for producing uniform continued motion. But assuming that he is acting simply as a motor, that a machine has taken the place of his tool, it is evident that he can be replaced by natural forces. Of all the great motors handed down from the manufacturing period, horse-power is the worst, partly because a horse has a head of his own, partly because he is costly, and the extent to which he is applicable in factories is very restricted.[2] Nevertheless the horse was extensively used during the infancy of Modern Industry. This is proved, as well by the complaints of contemporary agriculturists, as by the term "horse-power," which has survived to this day as an expression for mechanical force.

Wind was too inconstant and uncontrollable, and besides, in

[1] "The union of all these simple instruments, set in motion by a single motor, constitutes a machine." (Babbage, l. c.)

[2] In January, 1861, John C. Morton read before the Society of Arts a paper on "The forces employed in agriculture." He there states: "Every improvement that furthers the uniformity of the land makes the steam-engine more and more applicable to the production of pure mechanical force. . . . Horse-power is requisite wherever crooked fences and other obstructions prevent uniform action. These obstructions are vanishing day by day. For operations that demand more exercise of will than actual force, the only power applicable is that controlled every instant by the human mind—in other words, man-power." Mr. Morton then reduces steam-power, horse-power, and man-power, to the unit in general use for steam-engines, namely, the force required to raise 33,000 lbs. one foot in one minute, and reckons the cost of one horse-power from a steam engine to be 3d., and from a horse to be 5½d. per hour. Further, if a horse must fully maintain its health, it can work no more than 8 hours a day. Three at the least out of every seven horses used on tillage land during the year can be dispensed with by using steam-power, at an expense not greater than that which, the horses dispensed with, would cost during the 3 or 4 months in which alone they can be used effectively. Lastly, steam-power, in those agricultural operations in which it can be employed, improves, in comparison with horse-power, the quality of the work. To do the work of a steam-engine would require 66 men, at a total cost of 15s. an hour, and to do the work of a horse, 32 men, at a total cost of 8s. an hour.

England, the birthplace of Modern Industry, the use of water-power preponderated even during the manufacturing period. In the 17th century attempts had already been made to turn two pairs of millstones with a single water-wheel. But the increased size of the gearing was too much for the water-power, which had now become insufficient, and this was one of the circumstances that led to a more accurate investigation of the laws of friction. In the same way the irregularity caused by the motive power in mills that were put in motion by pushing and pulling a lever, led to the theory, and the application, of the fly-wheel, which afterwards plays so important a part in Modern Industry.[1] In this way, during the manufacturing period, were developed the first scientific and technical elements of Modern Mechanical Industry. Arkwright's throstle-spinning mill was from the very first turned by water. But for all that, the use of water, as the predominant motive power, was beset with difficulties. It could not be increased at will, it failed at certain seasons of the year, and, above all, it was essentially local.[2] Not till the invention of Watt's second and so called double-acting steam-engine, was a prime mover found, that begot its own force by the consumption of coal and water, whose power was entirely under man's control, that was mobile and a means of locomotion, that was urban and not, like the water-wheel, rural, that permitted production to be concentrated in towns instead of, like the water-wheels, being scattered up and down the country,[3] that was of universal technical application, and, relatively speaking, little affected in its choice of residence by local circumstances. The greatness

[1] Faulhebr, 1625; De Cous, 1688.

[2] The modern turbine frees the industrial exploitation of water-power from many of its former fetters.

[3] "In the early days of textile manufactures, the locality of the factory depended upon the existence of a stream having a sufficient fall to turn a water-wheel; and, although the establishment of the water mills was the commencement of the breaking up of the domestic system of manufacture, yet the mills necessarily situated upon streams, and frequently at considerable distances the one from the other, formed part of a rural, rather than an urban system; and it was not until the introduction of the steam-power as a substitute for the stream that factories were congregated in towns, and localities where the coal and water required for the production of steam were found in sufficient quantities. The steam-engine is the parent of manufacturing towns." (A. Redgrave in "Reports of the Insp. of Fact. 30th April, 1866," p. 36.)

of Watt's genius showed itself in the specification of the patent that he took out in April, 1784. In that specification his steam-engine is described, not as an invention for a specific purpose, but as an agent universally applicable in Mechanical Industry. In it he points out applications, many of which, as for instance, the steam-hammer, were not introduced till half a century later. Nevertheless he doubted the use of steam-engines in navigation. His successors, Boulton and Watt, sent to the exhibition of 1851 steam-engines of colossal size for ocean steamers.

As soon as tools had been converted from being manual implements of man into implements of a mechanical apparatus, of a machine, the motive mechanism also acquired an independent form, entirely emancipated from the restraints of human strength. Thereupon the individual machine, that we have hitherto been considering, sinks into a mere factor in production by machinery. One motive mechanism was now able to drive many machines at once. The motive mechanism grows with the number of the machines that are turned simultaneously, and the transmitting mechanism becomes a wide-spreading apparatus.

We now proceed to distinguish the co-operation of a number of machines of one kind from a complex system of machinery.

In the one case, the product is entirely made by a single machine, which performs all the various operations previously done by one handicraftsman with his tool; as, for instance, by a weaver with his loom; or by several handicraftsmen successively, either separately or as members of a system of Manufacture.[1] For example, in the manufacture of envelopes, one man folded the paper with the folder, another laid on the

[1] From the standpoint of division of labour in Manufacture, weaving was not simple, but, on the contrary, complicated manual labour; and consequently the power-loom is a machine that does very complicated work. It is altogether erroneous to suppose that modern machinery originally appropriated those operations alone, which division of labour had simplified. Spinning and weaving were, during the manufacturing period, split up into new species, and the implements were modified and improved; but the labour itself was in no way divided, and it retained its handicraft character. It is not the labour, but the instrument of labour, that serves as the starting-point of the machine.

gum, a third turned the flap over, on which the device is impressed, a fourth embossed the device, and so on; and for each of these operations the envelope had to change hands. One single envelope machine now performs all these operations at once, and makes more than 3000 envelopes in an hour. In the London exhibition of 1862, there was an American machine for making paper cornets. It cut the paper, pasted, folded, and finished 300 in a minute. Here, the whole process, which, when carried on as Manufacture, was split up into, and carried out by, a series of operations, is completed by a single machine, working a combination of various tools. Now, whether such a machine be merely a reproduction of a complicated manual implement, or a combination of various simple implements specialised by Manufacture, in either case, in the factory, *i.e.*, in the workshop in which machinery alone is used, we meet again with simple co-operation; and, leaving the workman out of consideration for the moment, this co-operation presents itself to us, in the first instance, as the conglomeration in one place of similar and simultaneously acting machines. Thus, a weaving factory is constituted of a number of power-looms, working side by side, and a sewing factory of a number of sewing machines all in the same building. But there is here a technical oneness in the whole system, owing to all the machines receiving their impulse simultaneously, and in an equal degree, from the pulsations of the common prime mover, by the intermediary of the transmitting mechanism; and this mechanism, to a certain extent, is also common to them all, since only particular ramifications of it branch off to each machine. Just as a number of tools, then, form the organs of a machine, so a number of machines of one kind constitute the organs of the motive mechanism.

A real machinery system, however, does not take the place of these independent machines, until the subject of labour goes through a connected series of detail processes, that are carried out by a chain of machines of various kinds, the one supplementing the other. Here we have again the co-operation by division of labour that characterises Manufacture; only now, it is a combination of detail machines. The special tools of

the various detail workmen, such as those of the beaters, combers, spinners, &c., in the woollen manufacture, are now transformed into the tools of specialised machines, each machine constituting a special organ, with a special function, in the system. In those branches of industry in which the machinery system is first introduced, Manufacture itself furnishes, in a general way, the natural basis for the division, and consequent organisation, of the process of production.[1] Nevertheless an essential difference at once manifests itself. In Manufacture it is the workmen who, with their manual implements, must, either singly or in groups, carry on each particular detail process. If, on the one hand, the workman becomes adapted to the process, on the other, the process was previously made suitable to the workman. This subjective principle of the division of labour no longer exists in production by machinery. Here, the process as a whole is examined objectively, in itself, that is to say, without regard to the question of its execution by human hands, it is analysed into its constituent phases; and the problem, how to execute each detail process, and bind them all into a whole, is solved by the aid of machines, chemistry, &c.[2] But, of course, in this case also, theory must be perfected by accumulated experience on a

[1] Before the epoch of Mechanical Industry, the wool manufacture was the predominating manufacture in England. Hence it was in this industry that, in the first half of the 18th century, the most experiments were made. Cotton, which required less careful preparation for its treatment by machinery, derived the benefit of the experience gained on wool, just as afterwards the manipulation of wool by machinery was developed on the lines of cotton-spinning and weaving by machinery. It was only during the 10 years immediately preceding 1866, that isolated details of the wool manufacture, such as wool-combing, were incorporated in the factory system. "The application of power to the process of combing wool . . . . extensively in operation since the introduction of the combing machine, especially Lister's . . . undoubtedly had the effect of throwing a very large number of men out of work. Wool was formerly combed by hand, most frequently in the cottage of the comber. It is now very generally combed in the factory, and hand-labour is superseded, except in some particular kinds of work, in which hand-combed wool is still preferred. Many of the hand-combers found employment in the factories, but the produce of the hand-combers bears so small a proportion to that of the machine, that the employment of a very large number of combers has passed away." (Rep. of Insp. of Fact. for 31st Oct., 1856, p. 16.)

[2] "The principle of the factory system, then, is to substitute . . . . the partition of a process into its essential constituents, for the division or graduation of labour among artisans." (Andrew Ure: "The Philosophy of Manufactures." Lond., 1835, p. 20.)

large scale. Each detail machine supplies raw material to the machine next in order; and since they are all working at the same time, the product is always going through the various stages of its fabrication, and is also constantly in a state of transition, from one phase to another. Just as in Manufacture, the direct co-operation of the detail labourers establishes a numerical proportion between the special groups, so in an organised system of machinery, where one detail machine is constantly kept employed by another, a fixed relation is established between their numbers, their size, and their speed. The collective machine, now an organised system of various kinds of single machines, and of groups of single machines, becomes more and more perfect, the more the process as a whole becomes a continuous one, *i.e.*, the less the raw material is interrupted in its passage from its first phase to its last; in other words, the more its passage from one phase to another is effected, not by the hand of man, but by the machinery itself. In Manufacture the isolation of each detail process is a condition imposed by the nature of division of labour, but in the fully developed factory the continuity of those processes is, on the contrary, imperative.

A system of machinery, whether it reposes on the mere co-operation of similar machines, as in weaving, or on a combination of different machines, as in spinning, constitutes in itself a huge automaton, whenever it is driven by a self-acting prime mover. But although the factory as a whole be driven by its steam-engine, yet either some of the individual machines may require the aid of the workman for some of their movements (such aid was necessary for the running in of the mule carriage, before the invention of the self-acting mule, and is still necessary in fine-spinning mills); or, to enable a machine to do its work, certain parts of it may require to be handled by the workman like a manual tool; this was the case in machine-makers' workshops, before the conversion of the slide rest into a self-actor. As soon as a machine executes, without man's help, all the movements requisite to elaborate the raw material, needing only attendance from him, we have an automatic system of machinery, and one that is susceptible of constant

improvement in its details. Such improvements as the apparatus that stops a drawing frame, whenever a sliver breaks, and the self-acting stop, that stops the power-loom so soon as the shuttle bobbin is emptied of weft, are quite modern inventions. As an example, both of continuity of production, and of the carrying out of the automatic principle, we may take a modern paper mill. In the paper industry generally, we may advantageously study in detail not only the distinctions between modes of production based on different means of production, but also the connexion of the social conditions of production with those modes: for the old German paper-making furnishes us with a sample of handicraft production; that of Holland in the 17th and of France in the 18th century with a sample of manufacturing in the strict sense; and that of modern England with a sample of automatic fabrication of this article. Besides these, there still exist, in India and China, two distinct antique Asiatic forms of the same industry.

An organised system of machines, to which motion is communicated by the transmitting mechanism from a central automaton, is the most developed form of production by machinery. Here we have, in the place of the isolated machine, a mechanical monster whose body fills whole factories, and whose demon power, at first veiled under the slow and measured motions of his giant limbs, at length breaks out into the fast and furious whirl of his countless working organs.

There were mules and steam-engines before there were any labourers, whose exclusive occupation it was to make mules and steam-engines; just as men wore clothes before there were such people as tailors. The inventions of Vaucanson, Arkwright, Watt, and others, were, however, practicable, only because those inventors found, ready to hand, a considerable number of skilled mechanical workmen, placed at their disposal by the manufacturing period. Some of these workmen were independent handicraftsmen of various trades, others were grouped together in manufactures, in which, as before-mentioned, division of labour was strictly carried out. As inventions increased in number, and the demand for the newly discovered machines grew larger, the machine-making industry

split up, more and more, into numerous independent branches, and division of labour in these manufactures was more and more developed. Here, then, we see in Manufacture the immediate technical foundation of Modern Industry. Manufacture produced the machinery, by means of which Modern Industry abolished the handicraft and manufacturing systems in those spheres of production that it first seized upon. The factory system was therefore raised, in the natural course of things, on an inadequate foundation. When the system attained to a certain degree of development, it had to root up this ready-made foundation, which in the meantime had been elaborated on the old lines, and to build up for itself a basis that should correspond to its methods of production. Just as the individual machine retains a dwarfish character, so long as it is worked by the power of man alone, and just as no system of machinery could be properly developed before the steam-engine took the place of the earlier motive powers, animals, wind, and even water; so, too, Modern Industry was crippled in its complete development, so long as its characteristic instrument of production, the machine, owed its existence to personal strength and personal skill, and depended on the muscular development, the keenness of sight, and the cunning of hand, with which the detail workmen in manufactures, and the manual labourers in handicrafts, wielded their dwarfish implements. Thus, apart from the dearness of the machines made in this way, a circumstance that is ever present to the mind of the capitalist, the expansion of industries carried on by means of machinery, and the invasion by machinery of fresh branches of production, were dependent on the growth of a class of workmen, who, owing to the almost artistic nature of their employment, could increase their numbers only gradually, and not by leaps and bounds. But besides this, at a certain stage of its development, Modern Industry became technologically incompatible with the basis furnished for it by handicraft and Manufacture. The increasing size of the prime movers, of the transmitting mechanism, and of the machines proper, the greater complication, multiformity and regularity of the details of these machines, as they more and more departed from the

model of those originally made by manual labour, and acquired a form, untrammelled except by the conditions under which they worked,[1] the perfecting of the automatic system, and the use, every day more unavoidable, of a more refractory material, such as iron instead of wood—the solution of all these problems, which sprang up by the force of circumstances, everywhere met with a stumbling-block in the personal restrictions, which even the collective labourer of Manufacture could not break through, except to a limited extent. Such machines as the modern hydraulic press, the modern powerloom, and the modern carding engine, could never have been furnished by Manufacture.

A radical change in the mode of production in one sphere of industry involves a similar change in other spheres. This happens at first in such branches of industry as are connected together by being separate phases of a process, and yet are isolated by the social division of labour, in such a way, that each of them produces an independent commodity. Thus spinning by machinery made weaving by machinery a necessity, and both together made the mechanical and chemical revolution that took place in bleaching, printing, and dyeing, imperative. So too, on the other hand, the revolution in cotton-spinning called forth the invention of the gin, for separating the seeds from the cotton fibre; it was only by means of this invention, that the production of cotton became possible on the enormous scale at present required.[2] But more especially, the

[1] The powerloom was at first made chiefly of wood; in its improved modern form it is made of iron. To what an extent the old forms of the instruments of production influenced their new forms at first starting, is shown by, amongst other things, the most superficial comparison of the present powerloom with the old one, of the modern blowing apparatus of a blast-furnace with the first inefficient mechanical reproduction of the ordinary bellows, and perhaps more strikingly than in any other way, by the attempts before the invention of the present locomotive, to construct a locomotive that actually had two feet, which after the fashion of a horse, it raised alternately from the ground. It is only after considerable development of the science of mechanics, and accumulated practical experience, that the form of a machine becomes settled entirely in accordance with mechanical principles, and emancipated from the traditional form of the tool that gave rise to it.

[2] Eli Whitney's cotton gin had until very recent times undergone less essential changes than any other machine of the 18th century. It is only during the last decade (*i.e.*, since 1856) that another American, Mr Emery, of Albany, New York, has rendered Whitney's gin antiquated by an improvement as simple as it is effective.

revolution in the modes of production of industry and agriculture made necessary a revolution in the general conditions of the social process of production, *i.e.*, in the means of communication and of transport. In a society whose pivot, to use an expression of Fourier, was agriculture on a small scale, with its subsidiary domestic industries, and the urban handicrafts, the means of communication and transport were so utterly inadequate to the productive requirements of the manufacturing period, with its extended division of social labour, its concentration of the instruments of labour, and of the workmen, and its colonial markets, that they became in fact revolutionised. In the same way the means of communication and transport handed down from the manufacturing period soon became unbearable trammels on Modern Industry, with its feverish haste of production, its enormous extent, its constant flinging of capital and labour from one sphere of production into another, and its newly-created connexions with the markets of the whole world. Hence, apart from the radical changes introduced in the construction of sailing vessels, the means of communication and transport became gradually adapted to the modes of production of mechanical industry, by the creation of a system of river steamers, railways, ocean steamers, and telegraphs. But the huge masses of iron that had now to be forged, to be welded, to be cut, to be bored, and to be shaped, demanded, on their part, cyclopean machines, for the construction of which the methods of the manufacturing period were utterly inadequate.

Modern Industry had therefore itself to take in hand the machine, its characteristic instrument of production, and to construct machines by machines. It was not till it did this, that it built up for itself a fitting technical foundation, and stood on its own feet. Machinery, simultaneously with the increasing use of it, in the first decades of this century, appropriated, by degrees, the fabrication of machines proper. But it was only during the decade preceding 1866, that the construction of railways and ocean steamers on a stupendous scale called into existence the cyclopean machines now employed in the construction of prime movers.

The most essential condition to the production of machines by machines was a prime mover capable of exerting any amount of force, and yet under perfect control. Such a condition was already supplied by the steam-engine. But at the same time it was necessary to produce the geometrically accurate straight lines, planes, circles, cylinders, cones, and spheres, required in the detail parts of the machines. This problem Henry Maudsley solved in the first decade of this century by the invention of the slide rest, a tool that was soon made automatic, and in a modified form was applied to other constructive machines besides the lathe, for which it was originally intended. This mechanical appliance replaces, not some particular tool, but the hand itself, which produces a given form by holding and guiding the cutting tool along the iron or other material operated upon. Thus it became possible to produce the forms of the individual parts of machinery "with a degree of ease, accuracy, and speed, that no accumulated experience of the hand of the most skilled workman could give."[1]

If we now fix our attention on that portion of the machinery employed in the construction of machines, which constitutes the operating tool, we find the manual implements reappearing, but on a cyclopean scale. The operating part of the boring machine is an immense drill driven by a steam-engine; without this machine, on the other hand, the cylinders of large steam-engines and of hydraulic presses could not be made. The mechanical lathe is only a cyclopean reproduction of the ordinary foot-lathe; the planing machine, an iron carpenter, that works on iron with the same tools that the human carpenter employs on wood; the instrument that, on the London wharves, cuts the veneers, is a gigantic razor; the tool of the shearing machine, which shears iron as easily as a tailor's scissors cut cloth, is a monster pair of scissors; and the steam hammer works with an ordinary hammer head, but of

[1] "The Industry of Nations, Lond., 1855," Part II., p. 239. This work also remarks: "Simple and outwardly unimportant as this appendage to lathes may appear, it is not, we believe, averring too much to state, that its influence in improving and extending the use of machinery has been as great as that produced by Watt's improvements of the steam-engine itself. Its introduction went at once to perfect all machinery, to cheapen it, and to stimulate invention and improvement."

such a weight that not Thor himself could wield it.[1] These steam hammers are an invention of Nasmyth, and there is one that weighs over 6 tons and strikes with a vertical fall of 7 feet, on an anvil weighing 36 tons. It is mere child's-play for it to crush a block of granite into powder, yet it is no less capable of driving, with a succession of light taps, a nail into a piece of soft wood.[2]

The implements of labour, in the form of machinery, necessitate the substitution of natural forces for human force, and the conscious application of science, instead of rule of thumb. In Manufacture, the organisation of the social labour-process is purely subjective; it is a combination of detail labourers; in its machinery system, Modern Industry has a productive organism that is purely objective, in which the labourer becomes a mere appendage to an already existing material condition of production. In simple co-operation, and even in that founded on division of labour, the suppression of the isolated, by the collective, workman still appears to be more or less accidental. Machinery, with a few exceptions to be mentioned later, operates only by means of associated labour, or labour in common. Hence the co-operative character of the labour-process is, in the latter case, a technical necessity dictated by the instrument of labour itself.

SECTION 2.—THE VALUE TRANSFERRED BY MACHINERY TO THE PRODUCT.

We saw that the productive forces resulting from co-operation and division of labour cost capital nothing. They are natural forces of social labour. So also physical forces, like steam, water, &c., when appropriated to productive processes, cost nothing. But just as a man requires lungs to breathe with, so he requires something that is work of man's hand, in order to consume physical forces productively. A water-wheel is necessary to exploit the force of water, and a steam engine to

[1] One of these machines, used for forging paddle-wheel shafts in London, is called "Thor." It forges a shaft of 16½ tons with as much ease as a blacksmith forges a horse-shoe.

[2] Wood working machines that are also capable of being employed on a small scale are mostly American inventions.

exploit the elasticity of steam. Once discovered, the law of the deviation of the magnetic needle in the field of an electric current, or the law of the magnetisation of iron, around which an electric current circulates, cost never a penny.[1] But the exploitation of these laws for the purposes of telegraphy, &c., necessitates a costly and extensive apparatus. The tool, as we have seen, is not exterminated by the machine. From being a dwarf implement of the human organism, it expands and multiplies into the implement of a mechanism created by man. Capital now sets the labourer to work, not with a manual tool, but with a machine which itself handles the tools. Although, therefore, it is clear at the first glance that, by incorporating both stupendous physical forces, and the natural sciences, with the process of production, Modern Industry raises the productiveness of labour to an extraordinary degree, it is by no means equally clear, that this increased productive force is not, on the other hand, purchased by an increased expenditure of labour. Machinery, like every other component of constant capital, creates no new value, but yields up its own value to the product that it serves to beget. In so far as the machine has value, and, in consequence, parts with value to the product, it forms an element in the value of that product. Instead of being cheapened, the product is made dearer in proportion to the value of the machine. And it is clear as noon-day, that machines and systems of machinery, the characteristic instruments of labour of Modern Industry, are incomparably more loaded with value than the implements used in handicrafts and manufactures.

In the first place, it must be observed that the machinery, while always entering as a whole into the labour-process, enters into the value-begetting process only by bits. It never adds more value than it loses, on an average, by wear and tear. Hence there

[1] Science, generally speaking, costs the capitalist nothing, a fact that by no means hinders him from exploiting it. The science of others is as much annexed by capital as the labour of others. Capitalistic appropriation and personal appropriation, whether of science or of material wealth, are, however, totally different things. Dr. Ure himself deplores the gross ignorance of mechanical science existing among his dear machinery-exploiting manufacturers, and Liebig can a tale unfold about the astounding ignorance of chemistry displayed by English chemical manufacturers.

is a great difference between the value of a machine, and the value transferred in a given time by that machine to the product. The longer the life of the machine in the labour-process, the greater is that difference. It is true, no doubt, as we have already seen, that every instrument of labour enters as a whole into the labour-process, and only piece-meal, proportionally to its average daily loss by wear and tear, into the value-begetting process. But this difference between the instrument as a whole and its daily wear and tear, is much greater in a machine than in a tool, because the machine, being made from more durable material, has a longer life; because its employment, being regulated by strictly scientific laws, allows of greater economy in the wear and tear of its parts, and in the materials it consumes; and lastly, because its field of production is incomparably larger than that of a tool. After making allowance, both in the case of the machine and of the tool, for their average daily cost, that is for the value they transmit to the product by their average daily wear and tear, and for their consumption of auxiliary substances, such as oil, coal, and so on, they each do their work gratuitously, just like the forces furnished by nature without the help of man. The greater the productive power of the machinery compared with that of the tool, the greater is the extent of its gratuitous service compared with that of the tool. In Modern Industry man succeeded for the first time in making the product of his past labour work on a large scale gratuitously, like the forces of nature.[1]

In treating of Co-operation and Manufacture, it was shown that certain general factors of production, such as buildings,

[1] Ricardo lays such stress on this effect of machinery (of which, in other connexions, he takes no more notice than he does of the general distinction between the labour-process and the process of creating surplus-value), that he occasionally loses sight of the value given up by machines to the product, and puts machines on the same footing as natural forces. Thus "Adam Smith nowhere undervalues the services which the natural agents and machinery perform for us, but he very justly distinguishes the nature of the value which they add to commodities . . . as they perform their work gratuitously, the assistance which they afford us, adds nothing to value in exchange." (Ric. l. c., p. 336, 337.) This observation of Ricardo is of course correct in so far as it is directed against J. B. Say, who imagines that machines render the "service" of creating value which forms a part of "profits."

are, in comparison with the scattered means of production of the isolated workman, economised by being consumed in common, and that they therefore make the product cheaper. In a system of machinery, not only is the framework of the machine consumed in common by its numerous operating implements, but the prime mover, together with a part of the transmitting mechanism, is consumed in common by the numerous operative machines.

Given the difference between the value of the machinery, and the value transferred by it in a day to the product, the extent to which this latter value makes the product dearer, depends in the first instance, upon the size of the product; so to say, upon its area. Mr. Baynes, of Blackburn, in a lecture published in 1858, estimates that "each real mechanical horse-power[1] will drive 450 self-acting mule spindles, with preparation, or 200 throstle spindles, or 15 looms for 40 inch cloth with the appliances for warping, sizing, &c." In the first case, it is the day's produce of 450 mule spindles, in the second, of 200 throstle spindles, in the third, of 15 power-looms, over which the daily cost of one horse-power, and the wear and tear of the machinery set in motion by that power, are spread; so that only a very minute value is transferred by such wear and tear to a pound of yarn or a yard of cloth. The

[1] A horse-power is equal to a force of 33,000 foot-pounds per minute, *i.e.*, to a force that raises 33,000 pounds one foot in a minute, or one pound 33,000 feet. This is the horse-power meant in the text. In ordinary language, and also here and there in quotations in this work, a distinction is drawn between the "nominal" and the "commercial" or "indicated" horse-power of the same engine. The old or nominal horse-power is calculated exclusively from the length of piston-stroke, and the diameter of the cylinder, and leaves pressure of steam and piston speed out of consideration. It expresses practically this: This engine would be one of 50 horse-power, if it were driven with the same low pressure of steam, and the same slow piston speed, as in the days of Boulton and Watt. But the two latter factors have increased enormously since those days. In order to measure the mechanical force exerted to-day by an engine, an indicator has been invented which shows the pressure of the steam in the cylinder. The piston speed is easily ascertained. Thus the "indicated" or "commercial" horse-power of an engine is expressed by a mathematical formula, involving diameter of cylinder, length of stroke, piston speed, and steam pressure, simultaneously, and showing what multiple of 33,000 pounds is really raised by the engine in a minute. Hence, one "nominal" horse-power may exert three, four, or even five "indicated" or "real" horse-powers. This observation is made for the purpose of explaining various citations in the subsequent pages.—(The editor.)

same is the case with the steam-hammer mentioned above. Since its daily wear and tear, its coal-consumption, &c., are spread over the stupendous masses of iron hammered by it in a day, only a small value is added to a hundredweight of iron; but that value would be very great, if the cyclopean instrument were employed in driving in nails.

Given a machine's capacity for work, that is, the number of its operating tools, or, where it is a question of force, their mass, the amount of its product will depend on the velocity of its working parts, on the speed, for instance, of the spindles, or on the number of blows given by the hammer in a minute. Many of these colossal hammers strike seventy times in a minute, and Ryder's patent machine for forging spindles with small hammers gives as many as 700 strokes per minute.

Given the rate at which machinery transfers its value to the product, the amount of value so transferred depends on the total value of the machinery.[1] The less labour it contains, the less value it imparts to the product. The less value it gives up, so much the more productive it is, and so much the more its services approximate to those of natural forces. But the production of machinery by machinery lessens its value relatively to its extension and efficacy.

An analysis and comparison of the prices of commodities produced by handicrafts or manufactures, and of the prices of the same commodities produced by machinery, shows generally, that, in the product of machinery, the value due to the instruments of labour increases relatively, but decreases absolutely. In other words, its absolute amount decreases, but its amount, relatively to the total value of the product, of a pound of yarn, for instance, increases.

[1] The reader who is imbued with capitalist notions will naturally miss here the "interest" that the machine, in proportion to its capital value, adds to the product. It is, however, easily seen that since a machine no more creates new value than any other part of constant capital, it cannot add any value under the name of "interest." It is also evident that here, where we are treating of the production of surplus value, we cannot assume *a priori* the existence of any part of that value under the name of interest. The capitalist mode of calculating, which appears, *primâ facie*, absurd, and repugnant to the laws of the creation of value, will be explained in the third book of this work.

[2] This portion of value which is added by the machinery, decreases both absolutely and relatively, when the machinery does away with horses and other animals that

It is evident that whenever it costs as much labour to produce a machine as is saved by the employment of that machine, there is nothing but a transposition of labour; consequently the total labour required to produce a commodity is not lessened or the productiveness of labour is not increased. It is clear, however, that the difference between the labour a machine costs, and the labour it saves, in other words, that the degree of its productiveness does not depend on the difference between its own value and the value of the implement it replaces. As long as the labour spent on a machine, and consequently the portion of its value added to the product, remains smaller than the value added by the workman to the product with his tool, there is always a difference of labour saved in favour of the machine. The productiveness of a machine is therefore measured by the human labour-power it replaces. According to Mr. Baynes, 2½ operatives are required for the 450 mule spindles, inclusive of preparation machinery,[1] that are

are employed as mere moving forces, and not as machines for changing the form of matter. It may here be incidentally observed, that Descartes, in defining animals as mere machines, saw with eyes of the manufacturing period, while to eyes of the middle ages, animals were assistants to man, as they were later to Von Haller in his "Restauration der Staatswissenschaften." That Descartes, like Bacon, anticipated an alteration in the form of production, and the practical subjugation of Nature by Man, as a result of the altered methods of thought, is plain from his "Discours de la Méthode." He there says: "Il est possible (by the methods he introduced in philosophy) de parvenir à des connaissances fort utiles à la vie, et qu'au lieu de cette philosophie spéculative qu'on enseigne dans les écoles, on en peut trouver une pratique, par laquelle, connaissant la force et les actions du feu, de l'eau, de l'air, des astres, et de tous les autres corps qui nous environnent, aussi distinctement que nous connaissons les divers métiers de nos artisans, nous les pourrious employer en même façon á tous les usages auxquels ils sont propres, et ainsi nous rendre comme maîtres et possesseurs de la nature" and thus "contribuer au perfectionnement de la vie humaine." In the preface to Sir Dudley North's "Discourses upon Trade" (1691) it is stated, that Descartes' method had begun to free political economy from the old fables and superstitious notions of gold, trade, &c. On the whole, however, the early English economists sided with Bacon and Hobbes as their philosophers; while, at a later period, the philosopher κατ' ἐξοχήν of political economy in England, France, and Italy, was Locke.

[1] According to the annual report (1863) of the Essen chamber of commerce, there was produced in 1862, at the cast-steel works of Krupp, with its 161 furnaces, thirty-two steam-engines (in the year 1800 this was about the number of all the steam-engines working in Manchester), and fourteen steam-hammers (representing in all 1236 horse-power), forty-nine forges, 203 tool-machines, and about 2400 workmen—thirteen million pounds of cast steel. Here there are not two workmen to each horse-power.

driven by one-horse power; each self-acting mule spindle, working ten hours, produces 13 ounces of yarn (average number or thickness); consequently $2\frac{1}{2}$ operatives spin weekly $365\frac{5}{8}$ lbs. of yarn. Hence, leaving waste on one side, 366 lbs. of cotton absorb, during their conversion into yarn, only 150 hours' labour, or fifteen days' labour of ten hours each. But with a spinning-wheel, supposing the hand-spinner to produce thirteen ounces of yarn in sixty hours, the same weight of cotton would absorb 2700 days' labour of ten hours each, or 27,000 hours' labour.[1] Where block-printing, the old method of printing calico by hand, has been superseded by machine printing, a single machine prints, with the aid of one man or boy, as much calico of four colours in one hour, as it formerly took 200 men to do.[2] Before Eli Whitney invented the cotton-gin in 1793, the separation of the seed from a pound of cotton cost an average day's labour. By means of his invention one negress was enabled to clean 100 lbs. daily; and since then, the efficacy of the gin has been considerably increased. A pound of cotton wool, previously costing 50 cents to produce, included after that invention more unpaid labour, and was consequently sold with greater profit, at 10 cents. In India they employ for separating the wool from the seed, an instrument, half machine, half tool, called a churka; with this one man and a woman can clean 28 lbs. daily. With the churka invented some years ago by Dr. Forbes, one man and a boy produce 250 lbs. daily. If oxen, steam, or water, be used for driving it, only a few boys and girls as feeders are required. Sixteen of these machines driven by oxen do as much work in a day as formerly 750 people did on an average.[3]

As already stated, a steam-plough does as much work in one hour at a cost of threepence, as 66 men at a cost of 15 shillings. I return to this example in order to clear up an erroneous

[1] Babbage estimates that in Java the spinning labour alone adds 117 % to the value of the cotton. At the same period (1832) the total value added to the cotton by machinery and labour in the fine-spinning industry, amounted to about 33 % of the value of the cotton. ("On the Economy of Machinery," p. 214.)

[2] Machine printing also economises colour.

[3] See paper read by Dr. Watson, Reporter on Products to the Government of India, before the Society of Arts, 17th April, 1860.

notion. The 15 shillings are by no means the expression in money of all the labour expended in one hour by the 66 men. If the ratio of surplus labour to necessary labour were 100%, these 66 men would produce in one hour a value of 30 shillings, although their wages, 15 shillings, represent only their labour for half an hour. Suppose, then, a machine cost as much as the wages for a year of the 150 men it displaces, say £3000; this £3000 is by no means the expression in money of the labour added to the object produced by these 150 men before the introduction of the machine, but only of that portion of their year's labour which was expended for themselves and represented by their wages. On the other hand, the £3000, the money value of the machine, expresses all the labour expended on its production, no matter in what proportion this labour constitutes wages for the workman, and surplus-value for the capitalist. Therefore, though a machine cost as much as the labour-power displaced by it costs, yet the labour materialised in it is even then much less than the living labour it replaces.[1]

The use of machinery for the exclusive purpose of cheapening the product, is limited in this way, that less labour must be expended in producing the machinery than is displaced by the employment of that machinery. For the capitalist, however, this use is still more limited. Instead of paying for the labour, he only pays the value of the labour-power employed; therefore, the limit to his using a machine is fixed by the difference between the value of the machine and the value of the labour-power replaced by it. Since the division of the day's work into necessary and surplus-labour differs in different countries, and even in the same country at different periods, or in different branches of industry; and further, since the actual wage of the labourer at one time sinks below the value of his labour-power, at another rises above it, it is possible for the difference between the price of the machinery and the price of the labour-power replaced by that machinery to vary very much, although the difference between the quantity of

[1] "These mute agents (machines) are always the produce of much less labour than that which they displace, even when they are of the same money value." (Ricardo, l. c., p. 40.)

labour requisite to produce the machine and the total quantity replaced by it, remain constant.[1] But it is the former difference alone that determines the cost, to the capitalist, of producing a commodity, and, through the pressure of competition, influences his action. Hence the invention now-a-days of machines in England that are employed only in North America; just as in the sixteenth and seventeenth centuries, machines were invented in Germany to be used only in Holland, and just as many a French invention of the eighteenth century was exploited in England alone. In the older countries, machinery, when employed in some branches of industry, creates such a redundancy of labour in other branches that in these latter the fall of wages below the value of labour-power impedes the use of machinery, and, from the standpoint of the capitalist, whose profit comes, not from a diminution of the labour employed, but of the labour paid for, renders that use superfluous and often impossible. In some branches of the woollen manufacture in England the employment of children has during recent years been considerably diminished, and in some cases has been entirely abolished. Why? Because the Factory Acts made two sets of children necessary, one working six hours, the other four, or each working five hours. But the parents refused to sell the "half-timers" cheaper than the "full-timers." Hence the substitution of machinery for the "half-timers."[2] Before the labour of women and of children under 10 years of age was forbidden in mines, capitalists considered the employment of naked women and girls, often in company with men, so far sanctioned by their moral code, and especially by their ledgers, that it was only after the passing of the Act that they had re-

[1] Hence in a communistic society there would be a very different scope for the employment of machinery than there can be in a bourgeois society.

[2] "Employers of labour would not unnecessarily retain two sets of children under thirteen. . . . In fact one class of manufacturers, the spinners of woollen yarn, now rarely employ children under thirteen years of age, *i.e.*, half-timers. They have introduced improved and new machinery of various kinds, which altogether supersedes the employment of children (*i.e.*, under 13 years); f.i., I will mention one process as an illustration of this diminution in the number of children, wherein by the addition of an apparatus, called a piecing machine, to existing machines, the work of six or four half-times, according to the peculiarity of each machine, can be performed by one young person (over 13 years) . . . the half-time system 'stimulated' the invention of the piecing machine." (Reports of Insp. of Fact. for 31st Oct., 1858.)

course to machinery. The Yankees have invented a stone-breaking machine. The English do not make use of it, because the "wretch"[1] who does this work gets paid for such a small portion of his labour, that machinery would increase the cost of production to the capitalist.[2] In England women are still occasionally used instead of horses for hauling canal boats,[3] because the labour required to produce horses and machines is an accurately known quantity, while that required to maintain the women of the surplus population is below all calculation. Hence nowhere do we find a more shameful squandering of human labour-power for the most despicable purposes than in England, the land of machinery.

SECTION 3.—THE PROXIMATE EFFECTS OF MACHINERY ON THE WORKMAN.

The starting point of Modern Industry is, as we have shown, the revolution in the instruments of labour, and this revolution attains its most highly developed form in the organised system of machinery in a factory. Before we inquire how human material is incorporated with this objective organism, let us consider some general effects of this revolution on the labourer himself.

a. Appropriation of supplementary Labour-power by Capital. The Employment of Women and Children.

In so far as machinery dispenses with muscular power, it becomes a means of employing labourers of slight muscular strength, and those whose bodily development is incomplete, but whose limbs are all the more supple. The labour of women and children was, therefore, the first thing sought for by capitalists who used machinery. That mighty substitute for labour and labourers was forthwith changed into a means for increasing the number of wage-labourers by enrolling, under the direct sway of capital, every member of the workman's family, without distinction of age or sex. Compulsory work for the capitalist usurped the place, not only of the

[1] "Wretch" is the recognised term in English political economy for the agricultural labourer.

[2] "Machinery . . . can frequently not be employed until labour (he means wages) rises." (Ricardo, l. c., p. 579.)

[3] See "Report of the Social Science Congress, at Edinburgh." Oct., 1863.

children's play, but also of free labour at home within moderate limits for the support of the family.[1]

The value of labour-power was determined, not only by the labour-time necessary to maintain the individual adult labourer, but also by that necessary to maintain his family. Machinery, by throwing every member of that family on to the labour market, spreads the value of the man's labour-power over his whole family. It thus depreciates his labour-power. To purchase the labour-power of a family of four workers may, perhaps, cost more than it formerly did to purchase the labour-power of the head of the family, but, in return, four days' labour takes the place of one, and their price falls in proportion to the excess of the surplus-labour of four over the surplus-labour of one. In order that the family may live, four people must now, not only labour, but expend surplus-labour for the capitalist. Thus we see, that machinery, while augmenting the human material that forms the principal object of capital's exploiting power,[2] at the same time raises the degree of exploitation.

[1] Dr. Edward Smith, during the cotton crisis caused by the American Civil War, was sent by the English Government to Lancashire, Cheshire, and other places, to report on the sanitary condition of the cotton operatives. He reported, that from a hygienic point of view, and apart from the banishment of the operatives from the factory atmosphere, the crisis had several advantages. The women now had sufficient leisure to give their infants the breast, instead of poisoning them with "Godfrey's cordial." They had time to learn to cook. Unfortunately the acquisition of this art occurred at a time when they had nothing to cook. But from this we see how capital, for the purposes of its self-expansion, has usurped the labour necessary in the home of the family. This crisis was also utilised to teach sewing to the daughters of the workmen in sewing schools. An American revolution and a universal crisis, in order that the working girls, who spin for the whole world, might learn to sew!

[2] "The numerical increase of labourers has been great, through the growing substitution of female for male, and above all, of childish for adult labour. Three girls of 13, at wages of from 6 shillings to 8 shillings a week, have replaced the one man of mature age, of wages varying from 18 shillings to 45 shillings." (Th. de Quincey: "The Logic of Political Econ., London, 1845." Note to p. 147.) Since certain family functions, such as nursing and suckling children, cannot be entirely suppressed, the mothers confiscated by capital, must try substitutes of some sort. Domestic work, such as sewing and mending, must be replaced by the purchase of ready-made articles. Hence, the diminished expenditure of labour in the house is accompanied by an increased expenditure of money. The cost of keeping the family increases, and balances the greater income. In addition to this, economy and judgment in the consumption and preparation of themeans of subsistence becomes impossible. Abundant material relating to these facts, which are concealed by official political

Machinery also revolutionises out and out the contract between the labourer and the capitalist, which formally fixes their mutual relations. Taking the exchange of commodities as our basis, our first assumption was that capitalist and labourer met as free persons, as independent owners of commodities; the one possessing money and means of production, the other labour-power. But now the capitalist buys children and young persons under age. Previously, the workman sold his own labour-power, which he disposed of nominally as a free agent. Now he sells wife and child. He has become a slave dealer.[1] The demand for children's labour often resembles in form the inquiries for negro slaves, such as were formerly to be read among the advertisements in American journals. "My attention," says an English factory inspector, "was drawn to an advertisement in the local paper of one of the most important manufacturing towns of my district, of which the following is a copy: Wanted, 12 to 20 young persons, not younger than what can pass for 13 years. Wages, 4 shillings a week. Apply &c." [2] The phrase "what can pass for 13 years," has reference to the fact, that by the Factory Act, children under 13 years may work only 6 hours. A surgeon officially appointed must certify their age. The manufacturer, therefore, asks for children who look as if they were already 13 years old. The decrease, often by leaps and bounds in the number of children under 13 years employed in factories, a decrease

economy, is to be found in the Reports of the Inspectors of Factories, of the Children's Employment Commission, and more especially in the Reports on Public Health.

[1] In striking contrast with the great fact, that the shortening of the hours of labour of women and children in English factories was exacted from capital by the male operatives, we find in the latest reports of the Children's Employment Commission traits of the operative parents in relation to the traffic in children, that are truly revolting and thoroughly like slave-dealing. But the Pharisee of a capitalist, as may be seen from the same reports, denounces this brutality which he himself creates, perpetuates, and exploits, and which he moreover baptizes "Freedom of labour." "Infant labour has been called into aid . . . even to work for their own daily bread. Without strength to endure such disproportionate toil, without instruction to guide their future life, they have been thrown into a situation physically and morally polluted. The Jewish historian has remarked upon the overthrow of Jerusalem by Titus that it was no wonder it should have been destroyed, with such a signal destruction, when an inhuman mother sacrificed her own offspring to satisfy the cravings of absolute hunger." ("Public Economy Concentrated." Carlisle, 1833, p. 56.)

[2] A. Redgrave in "Reports of Insp. of Fact. for 31st October, 1858," pp. 40, 41.

that is shown in an astonishing manner by the English statistics of the last 20 years, was for the most part, according to the evidence of the factory inspectors themselves, the work of the certifying surgeons, who overstated the age of the children, agreeably to the capitalist's greed for exploitation, and the sordid trafficking needs of the parents. In the notorious district of Bethnal Green, a public market is held every Monday and Tuesday morning, where children of both sexes from 9 years of age upwards, hire themselves out to the silk manufacturers. "The usual terms are 1s. 8d. a week (this belongs to the parents) and '2d. for myself and tea.' The contract is binding only for the week. The scene and language while this market is going on are quite disgraceful."[1] It has also occurred in England, that women have taken "children from the workhouse and let any one have them out for 2s. 6d. a week."[2] In spite of legislation, the number of boys sold in Great Britain by their parents to act as live chimney-sweeping machines (although there exist plenty of machines to replace them) exceeds 2000.[3] The revolution effected by machinery in the juridical relations between the buyer and the seller of labour-power, causing the transaction as a whole to lose the appearance of a contract between free persons, afforded the English Parliament an excuse, founded on juridical principles, for the interference of the state with factories. Whenever the law limits the labour of children to 6 hours in industries not before interfered with, the complaints of the manufacturers are always renewed. They allege that numbers of the parents withdraw their children from the industry brought under the Act, in order to sell them where "freedom of labour" still rules, *i.e.*, where children under 13 years are compelled to work like grown-up people, and therefore can be got rid of at a higher price. But since capital is by nature a leveller, since it exacts in every sphere of production equality in the conditions of the exploitation of labour, the limitation by law of children's labour, in one branch of industry, becomes the cause of its limitation in others.

[1] Children's Employment Commission, Fifth Report, London, 1866, p. 81, n. 31.
[2] Children's Employment Commission, Third Report, London, 1864, p. 53, n. 15.
[3] l. c., Fifth Report, p. 22, n. 137.

We have already alluded to the physical deterioration as well of the children and young persons as of the women, whom machinery, first directly in the factories that shoot up on its basis, and then indirectly in all the remaining branches of industry, subjects to the exploitation of capital. In this place, therefore, we dwell only on one point, the enormous mortality, during the first few years of their life, of the children of the operatives. In sixteen of the registration districts into which England is divided, there are, for every 100,000 children alive under the age of one year, only 9000 deaths in a year on an average (in one district only 7047); in 24 districts the deaths are over 10,000, but under 11,000; in 39 districts, over 11,000, but under 12,000; in 48 districts over 12,000, but under 13,000; in 22 districts over 20,000; in 25 districts over 21,000; in 17 over 22,000; in 11 over 23,000; in Hoo, Wolverhampton, Ashton-under-Lyne, and Preston, over 24,000; in Nottingham, Stockport, and Bradford, over 25,000; in Wisbeach, 26,000; and in Manchester, 26,125.[1] As was shown by an official medical inquiry in the year 1861, the high death-rates are, apart from local causes, principally due to the employment of the mothers away from their homes, and to the neglect and maltreatment consequent on her absence, such as, amongst others, insufficient nourishment, unsuitable food, and dosing with opiates; besides this, there arises an unnatural estrangement between mother and child, and as a consequence intentional starving and poisoning of the children.[2] In those agricultural districts, "where a minimum in the employment of women exists, the death-rate is on the other hand very low."[3] The Inquiry-Commission of 1861 led, however, to the unexpected result, that in some purely agricultural districts bordering on the North Sea, the death-rate of children under one year old almost equalled that of the worst factory districts. Dr. Julian Hunter was therefore commissioned to investigate this phenomenon on the

[1] Sixth Report on Public Health. Lond., 1864, p. 34.

[2] "It (the inquiry of 1861) . . . showed, moreover, that while, with the described circumstances, infants perish under the neglect and mismanagement which their mothers' occupations imply, the mothers become to a grievous extent denaturalized towards their offspring—commonly not troubling themselves much at the death, and even sometimes . . . taking direct measures to insure it." (l. c.)

[3] l. c., p. 454.

spot. His report is incorporated with the "Sixth Report on Public Health."[1] Up to that time it was supposed, that the children were decimated by malaria, and other diseases peculiar to low-lying and marshy districts. But the inquiry showed the very opposite, namely, that the same cause which drove away malaria, the conversion of the land, from a morass in winter and a scanty pasture in summer, into fruitful corn land, created the exceptional death-rate of the infants.[2] The 70 medical men, whom Dr. Hunter examined in that district, were "wonderfully in accord" on this point. In fact, the revolution in the mode of cultivation had led to the introduction of the industrial system. Married women, who work in gangs along with boys and girls, are, for a stipulated sum of money, placed at the disposal of the farmer, by a man called the "undertaker," who contracts for the whole gang. "These gangs will sometimes travel many miles from their own village; they are to be met morning and evening on the roads, dressed in short petticoats, with suitable coats and boots, and sometimes trousers, looking wonderfully strong and healthy, but tainted with a customary immorality, and heedless of the fatal results which their love of this busy and independent life is bringing on their unfortunate offspring who are pining at home."[3] Every phenomenon of the factory districts is here reproduced, including, but to a greater extent, ill-disguised infanticide, and dosing children with opiates.[4] "My knowledge of such evils," says Dr. Simon, the medical officer of the Privy Council and editor in chief of the Reports on Public Health, "may excuse the profound misgiving with which I regard any large industrial employment of adult women."[5] "Happy indeed," exclaims Mr. Baker, the factory inspector, in his official report, "happy in-

[1] l. c., p. 454-463. "Report by Dr. Henry Julian Hunter on the excessive mortality of infants in some rural districts of England."

[2] l. c., p. 35 and pp. 455, 456.

[3] l. c., p. 456.

[4] In the agricultural as well as in the factory districts the consumption of opium among the grown-up labourers, both male and female, is extending daily. "To push the sale of opiate . . . . is the great aim of some enterprising wholesale merchants. By druggists it is considered the leading article." (l. c., p. 459.) Infants that take opiates "shrank up into little old men," or "wizzened like little monkeys." (l. c., p. 460). We here see how India and China avenge themselves on England.

[5] l. c., p. 37.

deed will it be for the manufacturing districts of England, when every married woman having a family is prohibited from working in any textile works at all."[1]

The moral degradation caused by the capitalistic exploitation of women and children has been so exhaustively depicted by F. Engels in his "Lage der Arbeitenden Klasse Englands," and other writers, that I need only mention the subject in this place. But the intellectual desolation, artifically produced by converting immature human beings into mere machines for the fabrication of surplus-value, a state of mind clearly distinguishable from that natural ignorance which keeps the mind fallow without destroying its capacity for development, its natural fertility, this desolation finally compelled even the English Parliament to make elementary education a compulsory condition to the "productive" employment of children under 14 years, in every industry subject to the Factory Acts. The spirit of capitalist production stands out clearly in the ludicrous wording of the so-called education clauses in the Factory Acts, in the absence of an administrative machinery, an absence that again makes the compulsion illusory, in the opposition of the manufacturers themselves to these education clauses, and in the tricks and dodges they put in practice for evading them. "For this the legislature is alone to blame, by having passed a delusive law, which, while it would seem to provide that the children employed in factories shall be *educated*, contains no enactment by which that professed end can be secured. It provides nothing more than that the children shall on certain days of the week, and for a certain number of hours (three) in each day, be inclosed within the four walls of a place called a school, and that the employer of the child shall receive weekly a certificate to that effect signed by a person designated by the subscriber as a schoolmaster or schoolmistress." Previous to the passing of the amended Factory Act, 1844, it happened, not unfrequently, that the certificates of attendance at school were signed by the school-

[1] "Rep. of Insp. of Fact. for 31st Oct., 1862," p. 59. Mr. Baker was formerly a doctor.

[2] Leonard Horner in "Reports of Insp. of Fact. for 30th June, 1857," p. 17.

master or schoolmistress with a cross, as they themselves were unable to write. "On one occasion, on visiting a place called a school, from which certificates of school attendance had issued, I was so struck with the ignorance of the master, that I said to him: "Pray, sir, can you read?" His reply was: "Aye, summat!" and as a justification of his right to grant certificates, he added: "At any rate, I am before my scholars." The inspectors, when the Bill of 1844 was in preparation, did not fail to represent the disgraceful state of the places called schools, certificates from which they were obliged to admit as a compliance with the laws, but they were successful only in obtaining thus much, that since the passing of the Act of 1844, the figures in the school certificate must be filled up in the handwriting of the schoolmaster, who must also sign his Christian and surname in full."[1] Sir John Kincaid, factory inspector for Scotland, relates experiences of the same kind. "The first school we visited was kept by a Mrs. Ann Killin. Upon asking her to spell her name, she straightway made a mistake, by beginning with the letter C, but correcting herself immediately, she said her name began with a K. On looking at her signature, however, in the school certificate books, I noticed that she spelt it in various ways, while her handwriting left no doubt as to her unfitness to teach. She herself also acknowledged that she could not keep the register . . . . In a second school I found the schoolroom 15 feet long, and 10 feet wide, and counted in this space 75 children, who were gabbling something unintelligible."[2] "But it is not only in the miserable places above referred to that the children obtain certificates of school attendance without having received instruction of any value, for in many schools where there is a competent teacher, his efforts are of little avail from the distracting crowd of children of all ages, from infants of 3 years old and upwards; his livelihood, miserable at the best, depending on the pence received from the greatest number of children whom it is possible to cram into the space. To this is to be added scanty school furniture, deficiency of books, and

[1] L. Horner in "Rep. of Insp. of Fact. for 31st Oct., 1855," pp. 18, 19.
[2] Sir John Kincaid in "Rep. of Insp. of Fact. for 31st Oct., 1858," pp. 31, 32.

other materials for teaching, and the depressing effect upon the poor children themselves of a close, noisome atmosphere. I have been in many such schools, where I have seen rows of children doing absolutely nothing; and this is certified as school attendance, and, in statistical returns, such children are set down as being educated." In Scotland the manufacturers try all they can to do without the children that are obliged to attend school. "It requires no further argument to prove that the educational clauses of the Factory Act, being held in such disfavour among mill owners, tend in a great measure to exclude that class of children alike from the employment and the benefit of education contemplated by this Act."[2] Horribly grotesque does this appear in print works, which are regulated by a special Act. By that Act, "every child, before being employed in a print work must have attended school for at least 30 days, and not less than 150 hours, during the six months immediately preceding such first day of employment, and during the continuance of its employment in the print works, it must attend for a like period of 30 days, and 150 hours during every successive period of six months. . . . The attendance at school must be between 8 a.m. and 6 p.m. No attendance of less than 2½ hours, nor more than 5 hours on any one day, shall be reckoned as part of the 150 hours. Under ordinary circumstances the children attend school morning and afternoon for 30 days, for at least 5 hours each day, and upon the expiration of the 30 days, the statutory total of 150 hours having been attained, having, in their language, made up their book, they return to the print work, where they continue until the six months have expired, when another instalment of school attendance becomes due, and they again seek the school until the book is again made up. . . . . Many boys having attended school for the required number of hours, when they return to school after the expiration of their six months' work in the print work, are in the same condition as when they first attended school as print-work boys, that they have lost all they gained by their previous school attendance.

[1] L. Horner in "Reports, &c., for 31st Oct., 1857," pp. 17, 18.
Sir J. Kincaid in "Reports, &c., 31st Oct., 1856," p. 66.

. . . In other print works the children's attendance at school is made to depend altogether upon the exigencies of the work in the establishment. The requisite number of hours is made up each six months, by instalments consisting of from 3 to 5 hours at a time, spreading over, perhaps, the whole six months. . . . For instance, the attendance on one day might be from 8 to 11 a.m., on another day from 1 p.m. to 4 p.m., and the child might not appear at school again for several days, when it would attend from 3 p.m. to 6 p.m.; then it might attend for 3 or 4 days consecutively, or for a week, then it would not appear in school for 3 weeks or a month, after that upon some odd days at some odd hours when the operative who employed it chose to spare it; and thus the child was, as it were, buffeted from school to work, from work to school, until the tale of 150 hours was told."[1]

By the excessive addition of women and children to the ranks of the workers, machinery at last breaks down the resistance which the male operatives in the manufacturing period continued to oppose to the despotism of capital.[2]

b. Prolongation of the working-day.

If machinery be the most powerful means for increasing the productiveness of labour—*i.e.*, for shortening the working time required in the production of a commodity, it becomes in the hands of capital the most powerful means, in those industries first invaded by it, for lengthening the working day beyond

[1] A. Redgrave in "Rep. of Insp. of Fact., 31st Oct., 1857," pp. 41-42. In those industries where the Factory Act proper (not the Print Works Act referred to in the text) has been in force for some time, the obstacles in the way of the education clauses have, in recent years, been overcome. In industries not under the Act, the views of Mr. J. Geddes, a glass manufacturer, still extensively prevail. He informed Mr. White, one of the Inquiry Commissioners: "As far as I can see, the greater amount of education which a part of the working class has enjoyed for some years past is an evil. It is dangerous, because it makes them independent." (Children's Empl. Comm., Fourth Report, Lond., 1865, p. 253.)

[2] "Mr. E., a manufacturer . . . . informed me that he employed females exclusively at his power-looms . . . gives a decided preference to married females, especially those who have families at home dependent on them for support; they are attentive, docile, more so than unmarried females, and are compelled to use their utmost exertions to procure the necessaries of life. Thus are the virtues, the peculiar virtues of the female character to be perverted to her injury—thus all that is most dutiful and tender in her nature is made a means of her bondage and suffering." (Ten Hours' Factory Bill. The Speech of Lord Ashley, March 15th, Lond., 1844, p. 20.)

all bounds set by human nature. It creates, on the one hand, new conditions by which capital is enabled to give free scope to this its constant tendency, and on the other hand, new motives with which to whet capital's appetite for the labour of others.

In the first place, in the form of machinery, the implements of labour become automatic, things moving and working independent of the workman. They are thenceforth an industrial *perpetuum mobile*, that would go on producing forever, did it not meet with certain natural obstructions in the weak bodies and the strong wills of its human attendants. The automaton, as capital, and because it is capital, is endowed, in the person of the capitalist, with intelligence and will; it is therefore animated by the longing to reduce to a minimum the resistance offered by that repellent yet elastic natural barrier, man.[1] This resistance is moreover lessened by the apparent lightness of machine work, and by the more pliant and docile character of the women and children employed on it.[2]

The productiveness of machinery is, as we saw, inversely proportional to the value transferred by it to the product. The longer the life of the machine, the greater is the mass of the products over which the value transmitted by the machine is spread, and the less is the portion of that value added to

[1] "Since the general introduction of machinery, human nature has been forced far beyond its average strength." (Rob. Owen: "Observations on the effects of the manufacturing system, 2nd Ed., Lond., 1817.")

[2] The English, who have a tendency to look upon the earliest form of appearance of a thing as the cause of its existence, are in the habit of attributing the long hours of work in factories to the extensive kidnapping of children, practised by capitalists in the infancy of the factory system, on workhouses and orphanages, by means of which robbery unresisting material for exploitation was procured. Thus, for instance, Fielden, himself a manufacturer, says: "It is evident that the long hours of work were brought about by the circumstance of so great a number of destitute children being supplied from different parts of the country, that the masters were independent of the hands, and that having once established the custom by means of the miserable materials they had procured in this way, they could impose it on their neighbours with the greater facility." (J. Fielden: "The Curse of the Factory System. Lond., 1836," p. 11.) With reference to the labour of women, Saunders, the Factory inspector, says in his report of 1844: "Amongst the female operatives there are some women who, for many weeks in succession, except for a few days, are employed from 6 a.m. till midnight, with less than 2 hours for meals, so that on 5 days of the week they have only 6 hours left out of the 24, for going to and from their homes and resting in bed."

each single commodity. The active lifetime of a machine is, however, clearly dependent on the length of the working day, or on the duration of the daily labour-process multiplied by the number of days for which the process is carried on.

The wear and tear of a machine is not exactly proportional to its working time. And even if it were so, a machine working 16 hours daily for $7\frac{1}{2}$ years, covers as long a working period as, and transmits to the total product no more value than, the same machine would if it worked only 8 hours daily for 15 years. But in the first case the value of the machine would be reproduced twice as quickly as in the latter, and the capitalist would, by this use of the machine, absorb in $7\frac{1}{2}$ years as much surplus-value as in the second case he would in 15.

The material wear and tear of a machine is of two kinds. The one arises from use, as coins wear away by circulating, the other from non-use, as a sword rusts when left in its scabbard. The latter kind is due to the elements. The former is more or less directly proportional, the latter to a certain extent inversely proportional, to the use of the machine.[1]

But in addition to the material wear and tear, a machine also undergoes, what we may call a moral depreciation. It loses exchange-value, either by machines of the same sort being produced cheaper than it, or by better machines entering into competition with it.[2] In both cases, be the machine ever so young and full of life, its value is no longer determined by the labour actually materialised in it, but by the labour-time requisite to reproduce either it or the better machine. It has, therefore, lost value more or less. The shorter the period taken to reproduce its total value, the less is the danger of moral depreciation; and the longer the working day, the shorter is that period. When machinery is first introduced into an industry, new methods of reproducing it more cheaply follow

[1] "Occasion . . . injury to the delicate moving parts of metallic mechanism by inaction." (Ure, l. c., p. 28).

[2] The "Manchester Spinner" (*Times*, 26th Nov., 1862) before referred to says in relation to this subject: "It (namely, the "allowance for deterioration of machinery") is also intended to cover the loss which is constantly arising from the superseding of machines before they are worn out, by others of a new and better construction."

blow upon blow,[1] and so do improvements, that not only affect individual parts and details of the machine, but its entire build. It is, therefore, in the early days of the life of machinery that this special incentive to the prolongation of the working day makes itself felt most acutely.[2]

Given the length of the working day, all other circumstances remaining the same, the exploitation of double the number of workmen demands, not only a doubling of that part of constant capital which is invested in machinery and buildings, but also of that part which is laid out in raw material and auxiliary substances. The lengthening of the working day, on the other hand, allows of production on an extended scale without any alteration in the amount of capital laid out on machinery and buildings.[3] Not only is there, therefore, an increase of surplus-value, but the outlay necessary to obtain it diminishes. It is true that this takes place, more or less, with every lengthening of the working day; but in the case under consideration, the change is more marked, because the capital converted into the instruments of labour preponderates to a greater degree.[4] The development of the factory system fixes a constantly increasing portion of the capital in a form, in which, on the one hand, its value is capable of continual self-expansion, and in which, on the other hand, it loses both use-value and exchange-value when-

[1] "It has been estimated, roughly, that the first individual of a newly-invented machine will cost about five times as much as the construction of the second." (Babbage, l. c., p. 211).

[2] "The improvements which took place not long ago in frames for making patent net was so great that a machine in good repair which had cost £1,200, sold a few years after for £60 . . . improvements succeeded each other so rapidly, that machines which had never been finished were abandoned in the hands of their makers, because new improvements had superseded their utility." (Babbage, l. c., p. 233.) In these stormy, go-ahead times, therefore, the tulle manufacturers soon extended the working day, by means of double sets of hands, from the original 8 hours to 24.

[3] "It is self-evident, that, amid the ebbings and flowings of the markets and the alternate expansions and contractions of demand, occasions will constantly recur, in which the manufacturer may employ additional floating capital without employing additional fixed capital . . . if additional quantities of raw material can be worked up without incurring an additional expense for buildings and machinery." (R. Torrens: "On Wages and Combinations. London, 1834," p. 63.)

[4] This circumstance is mentioned only for the sake of completeness, for I shall not consider the rate of profit, *i.e.*, the ratio of the surplus-value to the total capital advanced, until I come to the third book.

ever it loses contact with living labour. "When a labourer," said Mr. Ashworth, a cotton magnate, to Professor Nassau W. Senior, "lays down his spade, he renders useless, for that period, a capital worth eighteenpence. When one of our people leaves the mill, he renders useless a capital that has cost £100,000.[1] Only fancy! making "useless" for a single moment, a capital that has cost £100,000! It is, in truth, monstrous, that a single one of our people should ever leave the factory! The increased use of machinery, as Senior after the instruction he received from Ashworth clearly perceives, makes a constantly increasing lengthening of the working day "desirable."[2]

Machinery produces relative surplus-value; not only by directly depreciating the value of labour-power, and by indirectly cheapening the same through cheapening the commodities that enter into its reproduction, but also, when it is first introduced sporadically into an industry, by converting the labour employed by the owner of that machinery, into labour of a higher degree and greater efficacy, by raising the social value of the article produced above its individual value, and thus enabling the capitalist to replace the value of a day's labour-power by a smaller portion of the value of a day's product. During this transition period, when the use of machinery is a sort of monopoly, the profits are therefore exceptional, and the capitalist endeavours to exploit thoroughly "the sunny time of this his first love," by prolonging the working day as much as possible. The magnitude of the profit whets his appetite for more profit.

As the use of machinery becomes more general in a particular industry, the social value of the product sinks down to its individual value, and the law that surplus-value does not

[1] Senior, "Letters on the Factory Act. London, 1837," pp. 13, 14.

[2] "The great proportion of fixed to circulating capital . . . makes long hours of work desirable." With the increased use of machinery, &c., "the motives to long hours of work will become greater, as the only means by which a large proportion of fixed capital can be made profitable." (l. c., pp. 11-13.) "There are certain expenses upon a mill which go on in the same proportion whether the mill be running short or full time, as, for instance, rent, rates, and taxes, insurance against fire, wages of several permanent servants, deterioration of machinery, with various other charges upon a manufacturing establishment, the proportion of which to profits increases as the production decreases. ("Rep. of Insp. of Fact. for 31st Oct., 1862," p. 19).

arise from the labour-power that has been replaced by the machinery, but from the labour-power actually employed in working with the machinery, asserts itself. Surplus-value arises from variable capital alone, and we saw that the amount of surplus-value depends on two factors, *viz.*, the rate of surplus-value and the number of the workmen simultaneously employed. Given the length of the working day, the rate of surplus-value is determined by the relative duration of the necessary labour and of the surplus-labour in a day. The number of the labourers simultaneously employed depends, on its side, on the ratio of the variable to the constant capital. Now, however much the use of machinery may increase the surplus-labour at the expense of the necessary labour by heightening the productiveness of labour, it is clear that it attains this result, only by diminishing the number of workmen employed by a given amount of capital. It converts what was formerly variable capital, invested in labour-power, into machinery which, being constant capital, does not produce surplus-value. It is impossible, for instance, to squeeze as much surplus-value out of 2 as out of 24 labourers. If each of these 24 men gives only one hour of surplus-labour in 12, the 24 men give together 24 hours of surplus-labour, while 24 hours is the total labour of the two men. Hence, the application of machinery to the production of surplus-value implies a contradiction which is immanent in it, since, of the two factors of the surplus-value created by a given amount of capital, one, the rate of surplus-value, cannot be increased, except by diminishing the other, the number of workmen. This contradiction comes to light, as soon as by the general employment of machinery in a given industry, the value of the machine-produced commodity regulates the value of all commodities of the same sort; and it is this contradiction, that in its turn, drives the capitalist, without his being conscious of the fact,[1] to excessive lengthening of the working day, in order that he may compensate the decrease in the relative number

[1] Why it is, that the capitalist, and also the political economists who are embued with his views, are unconscious of this immanent contradiction, will appear from the first part of the third book.

of labourers exploited, by an increase not only of the relative, but of the absolute surplus-labour.

If, then, the capitalistic employment of machinery, on the one hand, supplies new and powerful motives to an excessive lengthening of the working day, and radically changes, as well the methods of labour, as also the character of the social working organism, in such a manner as to break down all opposition to this tendency, on the other hand it produces, partly by opening out to the capitalist new strata of the working class, previously inaccessible to him, partly by setting free the labourers it supplants, a surplus working population,[1] which is compelled to submit to the dictation of capital. Hence that remarkable phenomenon in the history of Modern Industry, that machinery sweeps away every moral and natural restriction on the length of the working day. Hence, too, the economical paradox, that the most powerful instrument for shortening labour-time, becomes the most unfailing means for placing every moment of the labourer's time and that of his family, at the disposal of the capitalist for the purpose of expanding the value of his capital. "If," dreamed Aristotle, the greatest thinker of antiquity, "if every tool, when summoned, or even of its own accord, could do the work that befits it, just as the creations of Dædalus moved of themselves, or the tripods of Hephæstos went of their own accord to their sacred work, if the weavers' shuttles were to weave of themselves, then there would be no need either of apprentices for the master workers, or of slaves for the lords."[2] And Antiparos, a Greek poet of the time of Cicero, hailed the invention of the water-wheel for grinding corn, an invention that is the elementary form of all machinery, as the giver of freedom to female slaves, and the bringer back of the golden age.[3] Oh!

[1] It is one of the greatest merits of Ricardo to have seen in machinery not only the means of producing commodities, but of creating a "redundant population."

[2] F. Biese. "Die Philosophie des Aristoteles," Vol 2. Berlin, 1842, p. 408.

I give below the translation of this poem by Stolberg, because it brings into relief, quite in the spirit of former quotations referring to division of labour, the antithesis between the views of the ancients and the moderns. "Spare the hand that grinds the corn, Oh, miller girls, and softly sleep. Let Chanticleer announce the morn in vain! Deo has commanded the work of the girls to be done by the Nymphs, and now they skip lightly over the wheels, so that the shaken axles revolve with their spokes

those heathens! They understood, as the learned Bastiat, and before him the still wiser MacCulloch have discovered, nothing of political economy and Christianity. They did not, for example, comprehend that machinery is the surest means of lengthening the working day. They perhaps excused the slavery of one on the ground that it was a means to the full development of another. But to preach slavery of the masses, in order that a few crude and half-educated parvenus, might become "eminent spinners," "extensive sausage-makers," and "influential shoe-black dealers," to do this, they lacked the bump of Christianity.

c. Intensification of Labour.

The immoderate lengthening of the working day, produced by machinery in the hands of capital, leads to a reaction on the part of society, the very sources of whose life are menaced; and, thence, to a normal working day whose length is fixed by law. Thenceforth a phenomenon that we have already met with, namely, the intensification of labour, develops into great importance. Our analysis of absolute surplus-value had reference primarily to the extension or duration of the labour, its intensity being assumed as given. We now proceed to consider the substitution of a more intensified labour for labour of more extensive duration, and the degree of the former.

It is self-evident, that in proportion as the use of machinery spreads, and the experience of a special class of workmen habituated to machinery accumulates, the rapidity and intensity of labour increase as a natural consequence. Thus in

and pull round the load of the revolving stones. Let us live the life of our fathers, and let us rest from work and enjoy the gifts that the Goddess sends us."

"Schonet der mahlenden Hand, o Müllerinnen und schlafet
Sanft! es verkünde der Hahn euch den Morgen umsonst!
Däo hat die Arbeit der Mädchen den Nymphen befohlen,
Und itzt hüpfen sie leicht über die Räder dahin,
Dass die erschütterten Achsen mit ihren Speichen sich wälzen,
Und im Kreise die Last drehen des wälzenden Steins.
Lasst uns leben das Leben der Väter, und lasst uns der Gaben
Arbeitslos uns freun, welche die Göttin uns schenkt."

(Gedichte aus dem Griechischen übersetzt von Christian Graf zu Stolberg, Hamburg, 1782.)

England, during half a century, lengthening of the working day went hand in hand with increasing intensity of factory labour. Nevertheless the reader will clearly see, that where we have labour, not carried on by fits and starts, but repeated day after day with unvarying uniformity, a point must inevitably be reached, where extension of the working day and intensity of the labour mutually exclude one another, in such a way that lengthening of the working day becomes compatible only with a lower degree of intensity, and, a higher degree of intensity, only with a shortening of the working day. So soon as the gradually surging revolt of the working class compelled Parliament to shorten compulsorily the hours of labour, and to begin by imposing a normal working day on factories proper, so soon consequently as an increased production of surplus value by the prolongation of the working day was once for all put a stop to, from that moment capital threw itself with all its might into the production of relative surplus-value, by hastening on the further improvement of machinery. At the same time a change took place in the nature of relative surplus-value. Generally speaking, the mode of producing relative surplus-value consists in raising the productive power of the workman, so as to enable him to produce more in a given time with the same expenditure of labour. Labour-time continues to transmit as before the same value to the total product, but this unchanged amount of exchange value is spread over more use-values; hence the value of each single commodity sinks. Otherwise, however, so soon as the compulsory shortening of the hours of labour takes place. The immense impetus it gives to the development of productive power, and to economy in the means of production, imposes on the workman increased expenditure of labour in a given time, heightened tension of labour-power, and closer filling up of the pores of the working day, or condensation of labour to a degree that is attainable only within the limits of the shortened working day. This condensation of a greater mass of labour into a given period thenceforward counts for what it really is, a greater quantity of labour. In addition to a measure of its extension, *i.e.*, duration, labour now acquires a measure of its intensity or of the

degree of its condensation or density.[1] The denser hour of the ten hours' working-day contains more labour, *i.e.*, expended labour-power, than the more porous hour of the twelve hours' working-day. The product therefore of one of the former hours has as much or more value than has the product of $1\frac{1}{5}$ of the latter hours. Apart from the increased yield of relative surplus-value through the heightened productiveness of labour, the same mass of value is now produced for the capitalist say by $3\frac{1}{3}$ hours of surplus labour, and $6\frac{2}{3}$ hours of necessary labour, as was previously produced by four hours of surplus labour and eight hours of necessary labour.

We now come to the question: How is the labour intensified?

The first effect of shortening the working day results from the self-evident law, that the efficiency of labour-power is in an inverse ratio to the duration of its expenditure. Hence, within certain limits what is lost by shortening the duration is gained by the increasing tension of labour-power. That the workman moreover really does expend more labour-power, is ensured by the mode in which the capitalist pays him.[2] In those industries, such as potteries, where machinery plays little or no part, the introduction of the Factory Acts has strikingly shown that the mere shortening of the working-day increases to a wonderful degree the regularity, uniformity, order, continuity, and energy of the labour.[3] It seemed, however, doubtful whether this effect was produced in the factory proper, where the dependence of the workman on the continuous and uniform motion of the machinery had already created the strictest discipline. Hence, when in 1844 the reduction of the working-day to less than twelve hours was being debated, the masters almost unanimously declared "that their overlookers in the different rooms took good care that the hands lost no time," that "the extent of vigilance and attention on the part

[1] There are, of course, always differences in the intensities of the labour in various industries. But these differences are, as Adam Smith has shown, compensated to a partial extent by minor circumstances, peculiar to each sort of labour. Labour-time, as a measure of value, is not, however, affected in this case, except in so far as the duration of labour, and the degree of its intensity, are two antithetical and mutually exclusive expressions for one and the same quantity of labour.

[2] Especially by piece-work, a form we shall investigate in Part VI. of this book.

[3] See "Rep. of Insp. of Fact. for 31st October, 1865."

of the workmen was hardly capable of being increased," and, therefore, that the speed of the machinery and other conditions remaining unaltered, "to expect in a well-managed factory any important result from increased attention of the workmen was an absurdity."[1] This assertion was contradicted by experiments. Mr. Robert Gardner reduced the hours of labour in his two large factories at Preston, on and after the 20th April, 1844, from twelve to eleven hours a day. The result of about a year's working was that "the same amount of product for the same cost was received, and the workpeople as a whole earned in eleven hours as much wages as they did before in twelve."[2] I pass over the experiments made in the spinning and carding rooms, because they were accompanied by an increase of 2% in the speed of the machines. But in the weaving department, where, moreover, many sorts of figured fancy articles were woven, there was not the slightest alteration in the conditions of the work. The result was: "From 6th January to 20th April, 1844, with a twelve hours' day, average weekly wages of each hand 10s. 1½d., from 20th April to 29th June, 1844, with day of eleven hours, average weekly wages 10s. 3½d."[3] Here we have more produced in eleven hours than previously in twelve, and entirely in consequence of more steady application and economy of time by the workpeople. While they got the same wages and gained one hour of spare time, the capitalist got the same amount produced and saved the cost of coal, gas, and other such items, for one hour. Similar experiments, and with the like success, were carried out in the mills of Messrs. Horrocks and Jacson.

The shortening of the hours of labour creates, to begin with, the subjective conditions for the condensation of labour, by

[1] Rep. of Insp. of Fact. for 1844 and the quarter ending 30th April 1845, pp. 20-21.

[2] l. c., p. 19. Since the wages for piece-work were unaltered, the weekly wages depended on the quantity produced.

[3] l. c., p. 22.

[4] The moral element played an important part in the above experiments. The workpeople told the factory inspector: "We work with more spirit, we have the reward ever before us of getting away sooner at night, and one active and cheerful spirit pervades the whole mill, from the youngest piecer to the oldest hand, and we can greatly help each other" (l. c.)

enabling the workman to exert more strength in a given time So soon as that shortening becomes compulsory, machinery becomes in the hands of capital the objective means, systematically employed for squeezing out more labour in a given time. This is effected in two ways: by increasing the speed of the machinery, and by giving the workman more machinery to tent. Improved construction of the machinery is necessary, partly because without it greater pressure cannot be put on the workman, and partly because the shortened hours of labour force the capitalist to exercise the strictest watch over the cost of production. The improvements in the steam-engine have increased the piston speed, and at the same time have made it possible, by means of a greater economy of power, to drive with the same or even a smaller consumption of coal more machinery with the same engine. The improvements in the transmitting mechanism have lessened friction, and, what so strikingly distinguishes modern from the older machinery, have reduced the diameter and weight of the shafting to a constantly decreasing minimum. Finally, the improvements in the operative machines have, while reducing their size, increased their speed and efficiency, as in the modern power-loom; or, while increasing the size of their frame-work, have also increased the extent and number of their working parts, as in spinning mules, or have added to the speed of these working parts by imperceptible alterations of detail, such as those which ten years ago increased the speed of the spindles in self-acting mules by one-fifth.

The reduction of the working day to 12 hours dates in England from 1832. In 1836 a manufacturer stated: "The labour now undergone in the factories is much greater than it used to be . . . compared with thirty or forty years ago . . . owing to the greater attention and activity required by the greatly increased speed which is given to the machinery."[1] In the year 1844, Lord Ashley, now Lord Shaftesbury, made in the House of Commons the following statements, supported by documentary evidence:

"The labour performed by those engaged in the processes of

[1] John Fielden, l. c., p. 32.

manufacture, is three times as great as in the beginning of such operations. Machinery has executed, no doubt, the work that would demand the sinews of millions of men; but it has also prodigiously multiplied the labour of those who are governed by its fearful movements . . . In 1815, the labour of following a pair of mules spinning cotton of No. 40—reckoning 12 hours to the working-day—involved a necessity of walking 8 miles. In 1832, the distance travelled in following a pair of mules, spinning cotton yarn of the same number, was 20 miles, and frequently more. In 1835" (query—1815 or 1825?) "the spinner put up daily, on each of these mules, 820 stretches, making a total of 1,640 stretches in the course of the day. In 1832, the spinner put up on each mule 2,200 stretches, making a total of 4,400. In 1844, 2,400 stretches, making a total of 4,800; and in some cases the amount of labour required is even still greater . . . I have another document sent to me in 1842, stating that the labour is progressively increasing—increasing not only because the distance to be travelled is greater, but because the quantity of goods produced is multiplied, while the hands are fewer in proportion than before; and, moreover, because an inferior species of cotton is now often spun, which it is more difficult to work . . . In the carding-room there has also been a great increase of labour. One person there does the work formerly divided between two. In the weaving-room, where a vast number of persons are employed, and principally females . . . the labour has increased within the last few years fully 10 per cent, owing to the increased speed of the machinery in spinning. In 1838, the number of hanks spun per week was 18,000, in 1843 it amounted to 21,000. In 1819 the number of picks in power-loom-weaving per minute was 60—in 1842 it was 140, showing a vast increase of labour."[1]

In the face of this remarkable intensity of labour which had already been reached in 1844 under the Twelve Hours' Act, there appeared to be a justification for the assertion made at that time by the English manufacturers, that any further progress in that direction was impossible, and therefore that every further reduction of the hours of labour meant a lessened pro-

[1] Lord Ashley, l. c., p. 6-9, passim.

duction. The apparent correctness of their reasons will be best shown by the following contemporary statement by Leonard Horner, the factory inspector, their ever watchful censor.

"Now, as the quantity produced must, in the main, be regulated by the speed of the machinery, it must be the interest of the mill owner to drive it at the utmost rate of speed consistent with these following conditions, viz., the preservation of the machinery from too rapid deterioration; the preservation of the quality of the article manufactured; and the capability of the workman to follow the motion without a greater exertion than he can sustain for a constancy. One of the most important problems, therefore, which the owner of a factory has to solve is to find out the maximum speed at which he can run, with a due regard to the above conditions. It frequently happens that he finds he has gone too fast, that breakages and bad work more than counterbalance the increased speed, and that he is obliged to slacken his pace. I therefore concluded, that as an active and intelligent millowner would find out the safe maximum, it would not be possible to produce as much in eleven hours as in twelve. I further assumed that the operative paid by piece work, would exert himself to the utmost consistent with the power of continuing at the same rate."[1] Horner, therefore, came to the conclusion that a reduction of the working hours below twelve would necessarily diminish production.[2] He himself, ten years later, cites his opinion of 1845 in proof of how much he under-estimated in that year the elasticity of machinery, and of man's labour-power, both of which are simultaneously stretched to an extreme by the compulsory shortening of the working day.

We now come to the period that follows the introduction of the Ten Hours' Act in 1847 into the English cotton, woollen, silk, and flax mills.

"The speed of the spindles has increased upon throstles 500, and upon mules 1000 revolutions a minute, *i.e.*, the speed of

[1] Rep. of Insp. of Fact. for Quarter ending 30th September, 1844, and from 1st October, 1844, to 30th April, 1845. p. 20.

[2] l. c., p. 22.

the throstle spindle, which in 1839 was 4500 times a minute, is now (1862) 5000; and of the mule spindle, that was 5000, is now 6000 times a minute, amounting in the former case to one-tenth, and in the second case to one-fifth additional increase."[1] James Nasmyth, the eminent civil engineer of Patricroft, near Manchester, explained in a letter to Leonard Horner, written in 1852, the nature of the improvements in the steam-engine that had been made between the years 1848 and 1852. After remarking that the horse-power of steam-engines, being always estimated in the official returns according to the power of similar engines in 1828,[2] is only nominal, and can serve only as an index of their real power, he goes on to say: "I am confident that from the same weight of steam-engine machinery, we are now obtaining at least 50 per cent. more duty or work performed on the average, and that in many cases the identical steam-engines which in the days of the restricted speed of 220 feet per minute, yielded 50 horse-power, are now yielding upwards of 100." . . . . "The modern steam-engine of 100 horse-power is capable of being driven at a much greater force than formerly, arising from improvements in its construction, the capacity and construction of the boilers, &c." . . . "Although the same number of hands are employed in proportion to the horse-power as at former periods, there are fewer hands employed in proportion to the machinery."[3] "In the year 1850, the factories of the United Kingdom employed 134,217 nominal horse-power to give motion to 25,638,716 spindles and 301,445 looms. The number of spindles and looms in 1856 was respectively 33,503,580 of the former, and 369,205 of the latter, which, reckoning the force of the nominal horse-power required to be the same as in 1850, would require a force equal to 175,000 horses, but the actual power given in the return for

[1] "Rep. of Insp. of Fact. for 31st October, 1862," p. 62.

[2] This was altered in the "Parliamentary Return" of 1862. In it the actual horse-power of the modern steam-engines and water-wheels appears in place of the nominal. The doubling spindles, too, are no longer included in the spinning spindles (as was the case in the "Returns" of 1839, 1850, and 1856); further, in the case of woollen mills, the number of "gigs" is added, a distinction made between jute and hemp mills on the one hand and flax mills on the other, and finally stocking-weaving is for the first time inserted in the report.

[3] "Rep. of Insp. of Fact. for 31st October, 1856," pp. 13-14, 20 and 1852, p. 23.

1856 is 161,435, less by above 10,000 horses than, calculating upon the basis of the return of 1850, the factories ought to have required in 1856."[1] "The facts thus brought out by the Return (of 1856) appear to be that the factory system is increasing rapidly; that although the same number of hands are employed in proportion to the horse-power as at former periods, there are fewer hands employed in proportion to the machinery; that the steam-engine is enabled to drive an increased weight of machinery by economy of force and other methods, and that an increased quantity of work can be turned off by improvements in machinery, and in methods of manufacture, by increase of speed of the machinery, and by a variety of other causes."[2]

"The great improvements made in machines of every kind have raised their productive power very much. Without any doubt, the shortening of the hours of labour . . . . gave the impulse to these improvements. The latter, combined with the more intense strain on the workman, have had the effect, that at least as much is produced in the shortened (by two hours or one-sixth) working-day as was previously produced during the longer one."[3]

One fact is sufficient to show how greatly the wealth of the manufacturers increased along with the more intense exploitation of labour-power. From 1838 to 1850, the average proportional increase in English cotton and other factories was 32 %, while from 1850 to 1856 it amounted to 86 %.

But however great the progress of English industry had been during the 8 years from 1848 to 1856 under the influence of a working-day of 10 hours, it was far surpassed during the next period of 6 years from 1856 to 1862. In silk factories, for instance, there were in 1856, spindles 1,093,799; in 1862, 1,388,544; in 1856, looms 9,260; in 1862, 10,709. But the number of operatives was, in 1856, 56,131; in 1862, 52,429. The increase in the spindles was therefore 26.9% and in the looms 15.6%, while the number of the operatives decreased 7%.

[1] l. c., p. 14-15. [2] l. c., p. 20.

[3] Reports, &c., for 31st October, 1858, p. 9-10. Compare Reports, &c., for 30th April, 1860, p. 30, seqq.

In the year 1850 there were employed in worsted mills 875,830 spindles; in 1856, 1,324,549 (increase 51.2%), and in 1862, 1,289,172 (decrease 2.7%). But if we deduct the doubling spindles that figure in the numbers for 1856, but not in those for 1862, it will be found that after 1856 the number of spindles remained nearly stationary. On the other hand, after 1850, the speed of the spindles and looms was in many cases doubled. The number of power-looms in worsted mills was, in 1850, 32,617; in 1856, 38,956; in 1862, 43,048. The number of the operatives was, in 1850, 79,737; in 1856, 87,794; in 1862, 86,063; included in these, however, the children under 14 years of age were, in 1850, 9,956; in 1856, 11,228; in 1862, 13,178. In spite, therefore, of the greatly increased number of looms in 1862, compared with 1856, the total number of the workpeople employed decreased, and that of the children exploited increased.[1]

On the 27th April, 1863, Mr. Ferrand said in the House of Commons: "I have been informed by delegates from 16 districts of Lancashire and Cheshire, in whose behalf I speak, that the work in the factories is, in consequence of the improvements in machinery, constantly on the increase. Instead of as formerly one person with two helps tenting two looms, one person now tents three looms without helps, and it is no uncommon thing for one person to tent four. Twelve hours' work, as is evident from the facts adduced, is now compressed into less than 10 hours. It is therefore self-evident, to what an enormous extent the toil of the factory operative has increased during the last 10 years." [2]

Although, therefore, the Factory Inspectors unceasingly and with justice, commend the results of the Acts of 1844 and 1850,

[1] "Report of Insp. of Fact. for 31st Oct., 1862," pp. 100 and 130.

[2] On 2 modern power-looms a weaver now makes in a week of 60 hours 26 pieces of certain quality, length, and breadth; while on the old power-looms he could make no more than 4 such pieces. The cost of weaving a piece of such cloth had already soon after 1850 fallen from 2s. 9d. to 5½d.

"Thirty years ago (1841) one spinner with three piecers was not required to attend to more than one pair of mules with 300-324 spindles. At the present time (1871) he has to mind with the help of 5 piecers 2200 spindles, and produces not less than seven times as much yarn as in 1841." (Alex. Redgrave, Factory Inspector—in the Journal of Arts, 5th January, 1872.)

yet they admit that the shortening of the hours of labour has already called forth such an intensification of the labour as is injurious to the health of the workman and to his capacity for work. "In most of the cotton, worsted, and silk mills, an exhausting state of excitement necessary to enable the workers satisfactorily to mind the machinery, the motion of which has been greatly accelerated within the last few years, seems to me not unlikely to be one of the causes of that excess of mortality from lung disease, which Dr. Greenhow has pointed out in his recent report on this subject."[1] There cannot be the slightest doubt that the tendency that urges capital so soon as a prolongation of the hours of labour is once for all forbidden, to compensate itself, by a systematic heightening of the intensity of labour, and to convert every improvement in machinery into a more perfect means of exhausting the workman, must soon lead to a state of things in which a reduction of the hours of labour will again be inevitable.[2] On the other hand, the rapid advance of English industry between 1848 and the present time, under the influence of a day of 10 hours, surpasses the advance made between 1833 and 1847, when the day was 12 hours long, by far more than the latter surpasses the advance made during the half century after the first introduction of the factory system, when the working day was without limits.[3]

[1] Rep. of Insp. of Fact. for 31st Oct. 1861, pp. 25, 26.

[2] The agitation for a working day of 8 hours has now (1867) begun in Lancashire among the factory operatives.

[3] The following few figures indicate the increase in the "factories" of the United Kingdom since 1848:

	Quantity Exported, 1848.	Quantity Exported, 1851.	Quantity Exported, 1860.	Quantity Exported, 1865.
COTTON.				
Cotton yarn ..	lbs. 135,831,162	lbs. 143,936,106	lbs. 197,343,655	lbs. 103,751,455
Sewing thread	lbs.	lbs. 4,392,176	lbs. 6,297,554	lbs. 4,648,611
Cotton cloth ..	yds. 1,091,373,930	yds. 1,543,161,789	yds. 2,776,218,427	yds. 2,015,237,851
FLAX & HEMP.				
Yarn	lbs. 11,722,182	lbs. 18,841,326	lbs. 31,210,612	lbs. 36,777,334
Cloth	yds. 88,901,519	yds. 129,106,753	yds. 143,996,773	yds. 247,012,529
SILK.				
Yarn.....	lbs. 466,825	lbs. 462,5 3	lbs. 897,402	lbs. 812,589
Cloth	yds.	yds. 1,181,455	yds. 1,307,293	yds. 2,869,837
WOOL.				
Woollen and Worsted yarns	lbs.	lbs. 14,670,880	lbs. 27,533,968	lbs. 31,669,267
Cloth	yds.	yds. 241,120,973	yds. 190,381,537	yds. 278,837,438

SECTION IV.—THE FACTORY.

At the commencement of this chapter we considered that which we may call the body of the factory, *i.e.*, machinery organised into a system. We there saw how machinery, by annexing the labour of women and children, augments the number of human beings who form the material for capitalistic exploitation, how it confiscates the whole of the workman's disposable time, by immoderate extension of the hours of labour, and how finally its progress, which allows of enormous increase of production in shorter and shorter periods, serves as a means of systematically getting more work done in a shorter time, or of exploiting labour-power more intensely. We now turn to the factory as a whole, and that in its most perfect form.

Dr. Ure, the Pindar of the automatic factory, describes it, on the one hand as "Combined co-operation of many orders of workpeople, adult and young, in tending with assiduous skill, a

	Value Exported, 1848.	Value Exported, 1851.	Value Exported, 1860	Value Exported, 1865.
COTTON.	£	£	£	£
Yarn	5,927,831	6,634,026	9,870,875	10,351,04
Cloth.....	16,753,369	23,454,810	42,141,505	46,903,796
FLAX & HEMP.				
Yarn	493,449	951,426	1,801,272	2,505,497
Cloth.....	2,802,789	4,107,396	4,804,803	9,155,318
SILK.				
Yarn		195,380	918,342	768,067
Cloth.....	77,789	1,13[illegible],398	1,587,303	1,409,221
WOOL.				
Yarn	776,975	1,484,544	3,843,450	5,424,017
Cloth.....	5,733,828	8,377,183	12,156,998	20,102,259

See the Bluebooks "Statistical Abstract of the United Kingdom, Nos. 8 and 13." Lond., 1861 and 1866. In Lancashire the number of mills increased only 4 per cent. between 1839 and 1850; 19 per cent. between 1850 and 1856; and 33 per cent. between 1856 and 1862; while the persons employed in them during each of the above periods of 11 years increased absolutely, but diminished relatively. (See "Rep. of Insp. of Fact., for 31st Oct., 1862," p. 63.) The cotton trade preponderates in Lancashire. We may form an idea of the stupendous nature of the cotton trade in that district, when we consider that, of the gross number of textile factories in the United Kingdom, it absorbs 45.2 per cent., of the spindles 83.3 per cent., of the power-looms 81.4 per cent., of the mechanical horse-power 72.6 per cent., and of the total number of persons employed 58.2 per cent. (l. c., p. 62-63.)

system of productive machines, continuously impelled by a central power" (the prime mover); on the other hand, as "a vast automaton, composed of various mechanical and intellectual organs, acting in uninterrupted concert for the production of a common object, all of them being subordinate to a self-regulated moving force." These two descriptions are far from being identical. In one, the collective labourer, or social body of labour, appears as the dominant subject, and the mechanical automaton as the object; in the other, the automaton itself is the subject, and the workmen are merely conscious organs, co-ordinate with the unconscious organs of the automaton, and together with them, subordinated to the central moving-power. The first description is applicable to every possible employment of machinery on a large scale, the second is characteristic of its use by capital, and therefore of the modern factory system. Ure prefers therefore, to describe the central machine, from which the motion comes, not only as an automaton, but as an autocrat. "In these spacious halls the benignant power of steam summons around him his myriads of willing menials."[1]

Along with the tool, the skill of the workman in handling it passes over to the machine. The capabilities of the tool are emancipated from the restraints that are inseparable from human labour-power. Thereby the technical foundation on which is based the division of labour in Manufacture, is swept away. Hence, in the place of the hierarchy of specialised workmen that characterises manufacture, there steps, in the automatic factory, a tendency to equalise and reduce to one and the same level every kind of work that has to be done by the minders of the machines;[2] in the place of the artificially produced differentiations of the detail workmen, step the natural differences of age and sex.

So far as division of labour re-appears in the factory, it is primarily a distribution of the workmen among the specialised machines; and of masses of workmen, not however organised into groups, among the various departments of the factory,

[1] Ure, l. c., p. 18.
[2] Ure, l. c., p. 31. See Karl Marx, l. c., p. 140-141.

in each of which they work at a number of similar machines placed together; their co-operation, therefore, is only simple. The organised group, peculiar to manufacture, is replaced by the connexion between the head workman and his few assistants. The essential division is, into workmen who are actually employed on the machines (among whom are included a few who look after the engine), and into mere attendants (almost exclusively children) of these workmen. Among the attendants are reckoned more or less all "Feeders" who supply the machines with the material to be worked. In addition to these two principal classes, there is a numerically unimportant class of persons, whose occupation it is to look after the whole of the machinery and repair it from time to time; such as engineers, mechanics, joiners, &c. This is a superior class of workmen, some of them scientifically educated, others brought up to a trade; it is distinct from the factory operative class, and merely aggregated to it.[1] This division of labour is purely technical.

To work at a machine, the workman should be taught from childhood, in order that he may learn to adapt his own movements to the uniform and unceasing motion of an automaton. When the machinery, as a whole, forms a system of manifold machines, working simultaneously and in concert, the co-operation based upon it, requires the distribution of various groups of workmen among the different kinds of machines. But the employment of machinery does away with the necessity of crystallizing this distribution after the manner of Manufacture, by the constant annexation of a particular man to a particular function.[2] Since the motion of the whole system does not

[1] It looks very like intentional misleading by statistics (which misleading it would be possible to prove in detail in other cases too), when the English factory legislation excludes from its operation the class of labourers last mentioned in the text, while the parliamentary returns expressly include in the category of factory operatives, not only engineers, mechanics, &c., but also managers, salesmen, messengers, warehousemen, packers, &c., in short everybody, except the owner of the factory himself.

[2] Ure grants this. He says, "in case of need," the workmen can be moved at the will of the manager from one machine to another, and he triumphantly exclaims: "Such a change is in flat contradiction with the old routine, that divides the labour, and to one workman assigns the task of fashioning the head of a needle, to another the sharpening of the point." He had much better have asked himself, why this "old routine" is departed from in the automatic factory, only "in case of need."

proceed from the workman, but from the machinery, a change of persons can take place at any time without an interruption of the work. The most striking proof of this is afforded by the *relays system*, put into operation by the manufacturers during their revolt from 1848-1850. Lastly, the quickness with which machine work is learnt by young people, does away with the necessity of bringing up for exclusive employment by machinery, a special class of operatives.[1] With regard to the work of the mere attendants, it can, to some extent, be replaced in the mill by machines,[2] and owing to its extreme simplicity, it allows of a rapid and constant change of the individuals burdened with this drudgery.

Although then, technically speaking, the old system of division of labour is thrown overboard by machinery, it hangs on in the factory, as a traditional habit handed down from Manufacture, and is afterwards systematically re-moulded and established in a more hideous form by capital, as a means of exploiting labour-power. The life-long speciality of handling one and the same tool, now becomes the life-long speciality of serving one and the same machine. Machinery is put to a

[1] When distress is very great, as, for instance, during the American civil war, the factory operative is now and then set by the Bourgeois to do the roughest of work, such as road-making, &c. The English "ateliers nationaux" of 1862 and the following years, established for the benefit of the destitute cotton operatives, differ from the French of 1848 in this, that in the latter the workmen had to do unproductive work at the expense of the state, in the former they had to do productive municipal work to the advantage of the bourgeois, and that, too, cheaper than the regular workmen, with whom they were thus thrown into competition. "The physical appearance of the cotton operatives is unquestionably improved. This I attribute . . . as to the men, to outdoor labour on public works." ("Rep. of Insp. of Fact.," 31st Oct., 1865, p. 59.) The writer here alludes to the Preston factory operatives, who were employed on Preston Moor.

[2] An example: The various mechanical apparatus introduced since the Act of 1844 into woollen mills, for replacing the labour of children. So soon as it shall happen that the children of the manufacturers themselves have to go through a course of schooling as helpers in the mill, this almost unexplored territory of mechanics will soon make remarkable progress. "Of machinery, perhaps self-acting mules are as dangerous as any other kind. Most of the accidents from them happen to little children, from their creeping under the mules to sweep the floor whilst the mules are in motion. Several 'minders' have been fined for this offence, but without much general benefit. If machine makers would only invent a self-sweeper, by whose use the necessity for these little children to creep under the machinery might be prevented, it would be a happy addition to our protective measures." ("Reports of Insp. of Fact." for 31st Oct., 1866, p. 63.)

wrong use, with the object of transforming the workman, from his very childhood, into a part of a detail-machine.[1] In this way, not only are the expenses of his re-production considerably lessened, but at the same time his helpless dependence upon the factory as a whole, and therefore upon the capitalist, is rendered complete. Here as everywhere else, we must distinguish between the increased productiveness due to the development of the social process of production, and that due to the capitalist exploitation of that process. In handicrafts and manufacture, the workman makes use of a tool, in the factory, the machine makes use of him. There the movements of the instrument of labour proceed from him, here it is the movements of the machine that he must follow. In manufacture the workmen are parts of a living mechanism. In the factory we have a lifeless mechanism independent of the workman, who becomes its mere living appendage. "The miserable routine of endless drudgery and toil in which the same mechanical process is gone through over and over again, is like the labour of Sisyphus. The burden of labour, like the rock, keeps ever falling back on the worn-out labourer."[2] At the same time that factory work exhausts the nervous system to the uttermost, it does away with the many-sided play of the muscles, and confiscates every atom of freedom, both in bodily and intellectual activity.[3] The lightening of the labour, even, becomes a sort of torture, since the machine does not free the labourer from work, but deprives the work of all interest. Every kind of capitalist production, in so far as it is not only a labour-process, but also a process of creating surplus-value, has this in common, that it is not the workman that employs the instruments of labour, but the instruments of labour that

[1] So much then for Proudhon's wonderful idea: he "construes" machinery not as a synthesis of instruments of labour, but as a synthesis of detail operations for the benefit of the labourer himself.

[2] F. Engels, l. c. p. 217. Even an ordinary and optimist freetrader, like Mr. Molinari, goes so far as to say, "Un homme s'use plus vite en surveillant, quinze heures par jour, l'évolution uniforme d'un mécanisme, qu'en exerçant, dans le même espace de temps, sa force physique. Ce travail de surveillance qui servirait peut-être d'utile gymnastique à l'intelligence, s'il n'était pas trop prolongé, détruit à la longue, par son excès, et l'intelligence et le corps même." (G. de Molinari: "Études Économiques." Paris 1846).

[3] F. Engels. l. c. p. 216.

employ the workman. But it is only in the factory system that this inversion for the first time acquires technical and palpable reality. By means of its conversion into an automaton, the instrument of labour confronts the labourer, during the labour-process, in the shape of capital, of dead labour, that dominates, and pumps dry, living labour-power. The separation of the intellectual powers of production from the manual labour, and the conversion of those powers into the might of capital over labour, is, as we have already shown, finally completed by modern industry erected on the foundation of machinery. The special skill of each individual insignificant factory operative vanishes as an infinitesimal quantity before the science, the gigantic physical forces, and the mass of labour that are embodied in the factory mechanism and, together with that mechanism, constitute the power of the "master." This "master," therefore, in whose brain the machinery and his monopoly of it are inseparably united, whenever he falls out with his "hands," contemptuously tells them: "The factory operatives should keep in wholesome remembrance the fact that theirs is really a low species of skilled labour; and that there is none which is more easily acquired, or of its quality more amply remunerated, or which by a short training of the least expert can be more quickly, as well as abundantly, acquired. . . . The master's machinery really plays a far more important part in the business of production than the labour and the skill of the operative, which six months' education can teach, and a common labourer can learn."[1] The technical subordination of the workman to the uniform motion of the instruments of labour, and the peculiar composition of the body of workpeople, consisting as it does of individuals of both sexes and of all ages, give rise to a barrack discipline, which is elaborated into a complete system in the factory, and which fully developes the before mentioned labour of overlooking, thereby dividing the workpeople into operatives and overlookers, into private soldiers and sergeants of an

[1] "The Master Spinners' and Manufacturers' Defence Fund. Report of the Committee." Manchester, 1854, p. 17. We shall see hereafter, that the "master" can sing quite another song, when he is threatened with the loss of his "living" automaton.

industrial army. "The main difficulty [in the automatic factory] . . . lay . . . above all in training human beings to renounce their desultory habits of work, and to identify themselves with the unvarying regularity of the complex automaton. To devise and administer a successful code of factory discipline, suited to the necessities of factory diligence, was the Herculean enterprise, the noble achievement of Arkwright! Even at the present day, when the system is perfectly organised and its labour lightened to the utmost, it is found nearly impossible to convert persons past the age of puberty, into useful factory hands."[1] The factory code in which capital formulates, like a private legislator, and at his own good will, his autocracy over his workpeople, unaccompanied by that division of responsibility, in other matters so much approved of by the bourgeoisie, and unaccompanied by the still more approved representative system, this code is but the capitalistic caricature of that social regulation of the labour-process which becomes requisite in co-operation on a great scale, and in the employment in common, of instruments of labour and especially of machinery. The place of the slave driver's lash is taken by the overlooker's book of penalties. All punishments naturally resolve themselves into fines and deductions from wages, and the law-giving talent of the factory Lycurgus so arranges matters, that a violation of his laws is, if possible, more profitable to him than the keeping of them.[1]

[1] Ure. l. c. p. 15. Whoever knows the life history of Arkwright, will never dub this barber-genius "noble." Of all the great inventors of the 18th century, he was incontestably the greatest thiever of other people's inventions and the meanest fellow.

[2] "The slavery in which the bourgeoisie has bound the proletariat, comes nowhere more plainly into daylight than in the factory system. In it all freedom comes to an end both at law and in fact. The workman must be in the factory at half past five. If he come a few minutes late, he is punished; if he come 10 minutes late, he is not allowed to enter until after breakfast, and thus loses a quarter of a day's wage. He must eat, drink and sleep at word of command. . . The despotic bell calls him from his bed, calls him from breakfast and dinner. And how does he fare in the mill? There the master is the absolute law-giver. He makes what regulations he pleases; he alters and makes additions to his code at pleasure; and if he insert the veriest nonsense, the courts say to the workman: Since you have entered into this contract voluntarily, you must now carry it out. . . These workmen are condemned to live, from their ninth year till their death, under this mental and bodily torture." (F. Engels l. c. p. 217, sq.) What, "the courts say," I will illustrate by two examples. One occurs at Sheffield at the end of 1866. In that town a workman had engaged

We shall here merely allude to the material conditions under which factory labour is carried on. Every organ of sense is

himself for 2 years in a steelworks. In consequence of a quarrel with his employer he left the works, and declared that under no circumstances would he work for that master any more. He was prosecuted for breach of contract, and condemned to two months' imprisonment. (If the master break the contract, he can be proceeded against only in a civil action, and risks nothing but money damages). After the workman has served his two months, the master invites him to return to the works, pursuant to the contract. Workman says; No: he has already been punished for the breach. The master prosecutes again, the court condemns again, although one of the judges, Mr. Shee, publicly denounces this as a legal monstrosity, by which a man can periodically, as long as he lives, be punished over and over again for the same offence or crime. This judgment was given not by the "Great Unpaid," the provincial Dogberries, but by one of the highest courts of justice in London.—The second case occurs in Wiltshire at the end of November 1863. About 30 power-loom weavers, in the employment of one Harrup, a cloth manufacturer at Leower's Mill, Westbury Leigh, struck work because master Harrup indulged in the agreeable habit of making deductions from their wages for being late in the morning; 6d. for 2 minutes; 1s. for 3 minutes, and 1s. 6d. for ten minutes. This is at the rate of 9s. per hour, and £4 10s. 0d. per diem; while the wages of the weavers on the average of a year, never exceeded 10s. to 12s. weekly. Harrup also appointed a boy to announce the starting time by a whistle, which he often did before six o'clock in the morning: and if the hands were not all there at the moment the whistle ceased, the doors were closed, and those hands who were outside were fined: and as there was no clock on the premises, the unfortunate hands were at the mercy of the young Harrup-inspired time-keeper. The hands on strike, mothers of families as well as girls, offered to resume work if the time-keeper were replaced by a clock, and a more reasonable scale of fines were introduced. Harrup summoned 19 women and girls before the magistrates for breach of contract. To the utter indignation of all present, they were each mulcted in a fine of 6d. and 2s. 6d. for costs. Harrup was followed from the court by a crowd of people who hissed him.—A favourite operation with manufacturers is to punish the workpeople by deductions made from their wages on account of faults in the material worked on. This method gave rise in 1866 to a general strike in the English pottery districts. The reports of the Ch. Empl. Com. (1863-1866), give cases where the worker not only receives no wages, but becomes, by means of his labour, and of the penal regulations, the debtor to boot, of his worthy master. The late cotton crisis also furnished edifying examples of the sagacity shown by the factory autocrats in making deductions from wages. Mr. R. Baker, the Inspector of Factories, says, "I have myself had lately to direct prosecutions against one cotton mill occupier for having in these pinching and painful times deducted 10d. a piece from some of the young workers employed by him, for the surgeon's certificate (for which he himself had only paid 6d.), when only allowed by the law to deduct 3d., and by custom nothing at all . . . And I have been informed of another, who, in order to keep without the law, but to attain the same object, charges the poor children who work for him a shilling each, as a fee for learning them the art and mystery of cotton spinning, so soon as they are declared by the surgeon fit and proper persons for that occupation. There may therefore be undercurrent causes for such extraordinary exhibitions as strikes, not only wherever they arise, but particularly at such times as the present, which without explanation, render them inexplicable to the public understanding." He alludes here to a strike of power-loom weavers at Darwen, June, 1863. ("Reports of Insp. of Fact. for 30 April, 1863," pp. 50-51.) The reports always go beyond their official dates.

injured in an equal degree by artificial elevation of the temperature, by the dust-laden atmosphere, by the deafening noise, not to mention danger to life and limb among the thickly crowded machinery, which, with the regularity of the seasons, issues its list of the killed and wounded in the industrial battle.[1] Economy of the social means of production, matured and forced as in a hothouse by the factory system, is turned, in the hands of capital, into systematic robbery of what is necessary for the life of the workman while he is at work, robbery of space, light, air, and of protection to his person against the dangerous and unwholesome accompaniments of the productive process, not to mention the robbery of appliances for the comfort of the workman.[2] Is Fourier wrong when he calls factories "tempered bagnos?"[3]

The protection afforded by the Factory Acts against dangerous machinery has had a beneficial effect. "But . . . there are other sources of accident which did not exist twenty years since; one especially, viz., the increased speed of the machinery. Wheels, rollers, spindles and shuttles are now propelled at increased and increasing rates; fingers must be quicker and defter in their movements to take up the broken thread, for, if placed with hesitation or carelessness, they are sacrificed. . . . A large number of accidents are caused by the eagerness of the workpeople to get through their work expeditiously. It must be remembered that it is of the highest importance to manufacturers that their machinery should be in motion, *i.e.*, producing yarns and goods. Every minute's stoppage is not only a loss of power, but of production, and the workpeople are urged by the overlookers, who are interested in the quantity of work turned off, to keep the machinery in motion; and it is no less important to those of the operatives who are paid by the weight or piece, that the machines should be kept in motion. Consequently, although it is strictly forbidden in many, nay in most factories, that machinery should be cleaned while in motion, it is nevertheless the constant practice in most if not in all, that the workpeople do, unreproved, pick out waste, wipe rollers and wheels, &c., while their frames are in motion. Thus from this cause only, 906 accidents have occurred during the six months. . . . . Although a great deal of cleaning is constantly going on day by day, yet Saturday is generally the day set apart for the thorough cleaning of the machinery, and a great deal of this is done while the machinery is in motion." Since cleaning is not paid for, the workpeople seek to get done with it as speedily as possible. Hence "the number of accidents which occur on Fridays, and especially on Saturdays, is much larger than on any other day. On the former day the excess is nearly 12 per cent. over the average number of the four first days of the week, and on the latter day the excess is 25 per cent. over the average of the preceding five days; or, if the number of working-hours on Saturday being taken into account—7½ hours on Saturday as compared with 10½ on other days—there is an excess of 65 per cent. on Saturdays over the average of the other five days." ("Rep. of Insp. of Fact., 31st Oct., 1866," p. 9, 15, 16, 17.)

[2] In Part I. of Book III. I shall give an account of a recent campaign by the English manufacturers against the Clauses in the Factory Acts that protect the "hands" against dangerous machinery. For the present, let this one quotation from the official report of Leonard Horner suffice: "I have heard some millowners speak with inex-

Section 5.—The strife between workman and machine.

The contest between the capitalist and the wage-labourer dates back to the very origin of capital. It raged on throughout the whole manufacturing period.[1] But only since the introduction of machinery has the workman fought against the instrument of labour itself, the material embodiment of capital. He revolts against this particular form of the means of production, as being the material basis of the capitalist mode of production.

In the 17th century nearly all Europe experienced revolts of the workpeople against the ribbon-loom, a machine for weaving ribbons and trimmings, called in Germany Bandmühle, Schnurmühle, and Mühlenstuhl. These machines were invented in Germany. Abbé Lancellotti, in a work that appeared in Venice in 1636, but which was written in 1579, says as follows: "Anthony Müller of Danzig, saw about 50 years ago in that town, a very ingenious machine, which weaves 4 to 6 pieces at once. But the Mayor being apprehensive that this

cusable levity of some of the accidents; such, for instance, as the loss of a finger being a trifling matter. A working-man's living and prospects depend so much upon his fingers, that any loss of them is a very serious matter to him. When I have heard such inconsiderate remarks made, I have usually put this question: Suppose you were in want of an additional workman, and two were to apply, both equally well qualified in other respects, but one had lost a thumb or a forefinger, which would you engage? There never was a hesitation as to the answer." . . . . The manufacturers have "mistaken prejudices against what they have heard represented as a pseudo-philanthropic legislation." ("Rep. of Insp. of Fact., 31st Oct., 1855." These manufacturers are clever folk, and not without reason were they enthusiastic for the slave-holders' rebellion.

[1] In those factories that have been longest subject to the Factory Acts, with their compulsory limitation of the hours of labour, and other regulations, many of the older abuses have vanished. The very improvement of the machinery demands to a certain extent "improved construction of the buildings," and this is an advantage to the workpeople. (See "Rep. of Insp. of Fact. for 31st Oct., 1863," p. 109.)

[2] See amongst others, John Houghton: "Husbandry and Trade improved. London, 1727." "The Advantages of the East India Trade, 1720." John Bellers, l. c. "The masters and their workmen are, unhappily, in a perpetual war with each other The invariable object of the former is to get their work done as cheaply as possible; and they do not fail to employ every artifice to this purpose, whilst the latter are equally attentive to every occasion of distressing their masters into a compliance with higher demands." ("An Inquiry into the Causes of the Present High Prices of Provisions," p. 61-62. Author, the Rev. Nathaniel Forster, quite on the side of the workmen.)

invention might throw a large number of workmen on the streets, caused the inventor to be secretly strangled or drowned." In Leyden, this machine was not used till 1629; there the riots of the ribbon-weavers at length compelled the Town Council to prohibit it. "In hac urbe," says Boxhorn (Inst. Pol., 1663), referring to the introduction of this machine into Leyden, "ante hos viginti circiter annos instrumentum quidam invenerunt textorium, quo solus plus panni et facilius conficere poterat, quam plures aequali tempore. Hinc turbæ ortæ et querulæ textorum, tandemque usus hujus instrumenti a magistratu prohibitus est." After making various decrees more or less prohibitive against this loom in 1632, 1639, &c., the States General of Holland at length permitted it to be used, under certain conditions, by the decree of the 15th December, 1661. It was also prohibited in Cologne in 1676, at the same time that its introduction into England was causing disturbances among the workpeople. By an imperial Edict of 19th Feb., 1685, its use was forbidden throughout all Germany. In Hamburg it was burnt in public by order of the Senate. The Emperor Charles VI., on 9th Feb., 1719, renewed the edict of 1685, and not till 1765 was its use openly allowed in the Electorate of Saxony. This machine, which shook Europe to its foundations, was in fact the precursor of the mule and the power-loom, and of the industrial revolution of the 18th century. It enabled a totally inexperienced boy, to set the whole loom with all its shuttles in motion, by simply moving a rod backwards and forwards, and in its improved form produced from 40 to 50 pieces at once.

About 1630, a wind-sawmill, erected near London by a Dutchman, succumbed to the excesses of the populace. Even as late as the beginning of the 18th century, sawmills driven by water overcame the opposition of the people, supported as it was by parliament, only with great difficulty. No sooner had Everet in 1758 erected the first wool-shearing machine that was driven by water-power, than it was set on fire by 100,000 people who had been thrown out of work. Fifty thousand workpeople, who had previously lived by carding wool, petitioned parliament against Arkwright's scribbling

mills and carding engines. The enormous destruction of machinery that occurred in the English manufacturing districts during the first 15 years of this century, chiefly caused by the employment of the power-loom, and known as the Luddite movement, gave the anti-jacobin governments of a Sidmouth, a Castlereagh, and the like, a pretext for the most re-actionary and forcible measures. It took both time and experience before the workpeople learnt to distinguish between machinery and its employment by capital, and to direct their attacks, not against the material instruments of production, but against the mode in which they are used.[1]

The contests about wages in Manufacture, presuppose manufacture, and are in no sense directed against its existence. The opposition against the establishment of new manufactures, proceeds from the guilds and privileged towns, not from the workpeople. Hence the writers of the manufacturing period treat the division of labour chiefly as a means of virtually supplying a deficiency of labourers, and not as a means of actually displacing those in work. This distinction is self-evident. If it be said that 100 millions of people would be required in England to spin with the old spinning-wheel the cotton that is now spun with mules by 500,000 people, this does not mean that the mules took the place of those millions who never existed. It means only this, that many millions of workpeople would be required to replace the spinning machinery. If, on the other hand, we say, that in England the power-loom threw 800,000 weavers on the streets, we do not refer to existing machinery, that would have to be replaced by a definite number of workpeople, but to a number of weavers in existence who were actually replaced or displaced by the looms. During the manufacturing period, handicraft labour, altered though it was by division of labour, was yet the basis. The demands of the new colonial markets could not be satisfied owing to the relatively small number of town operatives handed down from the middle ages, and the manufactures proper opened out new

[1] In old-fashioned manufactures the revolts of the workpeople against machinery, even to this day, occasionally assume a savage character, as in the case of the Sheffield file cutters in 1865.

fields of production to the rural population, driven from the land by the dissolution of the feudal system. At that time, therefore, division of labour and co-operation in the workshops, were viewed more from the positive aspect, that they made the workpeople more productive.[1] Long before the period of Modern Industry, co-operation and the concentration of the instruments of labour in the hands of a few, gave rise, in numerous countries where these methods were applied in agriculture, to great, sudden and forcible revolutions in the modes of production, and consequentially, in the conditions of existence, and the means of employment of the rural populations. But this contest at first takes place more between the large and the small landed proprietors, than between capital and wage-labour; on the other hand, when the labourers are displaced by the instruments of labour, by sheep, horses, &c., in this case force is directly resorted to in the first instance as the prelude to the industrial revolution. The labourers are first driven from the land, and then come the sheep. Land grabbing on a great scale, such as was perpetrated in England, is the first step in creating a field for the establishment of agriculture on a great scale. Hence this subversion of agriculture puts on, at first, more the appearance of a political revolution.

The instrument of labour, when it takes the form of a machine, immediately becomes a competitor of the workman himself.[2] The self-expansion of capital by means of machinery is thenceforward directly proportional to the number of the workpeople, whose means of livelihood have been destroyed by

[1] Sir James Stewart also understands machinery quite in this sense. "Je considère donc les machines comme des moyens d'augmenter (virtuellement) le nombre des gens industrieux qu'on n'est pas obligé de nourrir. . . . En quoi l'effet d'une machine diffère-t-il de celui de nouveaux habitants?" (French trans. t. I., l. I., ch. XIX.) More naïve is Petty, who says, it replaces "Polygamy." The above point of view is, at the most, admissible only for some parts of the United States. On the other hand, "machinery can seldom be used with success to abridge the labour of an individual; more time would be lost in its construction than could be saved by its application. It is only really useful when it acts on great masses, when a single machine can assist the work of thousands. It is accordingly in the most populous countries, where there are most idle men, that it is most abundant. . . . It is not called into use by a scarcity of men, but by the facility with which they can be brought to work in masses." (Piercy Ravenstone: "Thoughts on the Funding System and its Effects." London, 1824, p. 15.)

[2] "Machinery and labour are in constant competition." Ricardo, l. c., p. 479.

that machinery. The whole system of capitalist production is based on the fact that the workman sells his labour-power as a commodity. Division of labour specialises this labour-power, by reducing it to skill in handling a particular tool. So soon as the handling of this tool becomes the work of a machine, then, with the use-value, the exchange-value too, of the workman's labour-power vanishes; the workman becomes unsaleable, like paper money thrown out of currency by legal enactment. That portion of the working class, thus by machinery rendered superfluous, *i.e.*, no longer immediately necessary for the self-expansion of capital, either goes to the wall in the unequal contest of the old handicrafts and manufactures with machinery, or else floods all the more easily accessible branches of industry, swamps the labour market, and sinks the price of labour-power below its value. It is impressed upon the workpeople, as a great consolation, first, that their sufferings are only temporary ("a temporary inconvenience"), secondly, that machinery acquires the mastery over the whole of a given field of production, only by degrees, so that the extent and intensity of its destructive effect is diminished. The first consolation neutralizes the second. When machinery seizes on an industry by degrees, it produces chronic misery among the operatives who compete with it. Where the transition is rapid, the effect is acute and felt by great masses. History discloses no tragedy more horrible than the gradual extinction of the English handloom weavers, an extinction that was spread over several decades, and finally sealed in 1838. Many of them died of starvation, many with families vegetated for a long time on 2½d. a day.[1] On the other hand, the English cotton machinery produced an

[1] The competition between hand-weaving and power-weaving in England, before the passing of the Poor Law of 1833, was prolonged by supplementing the wages, which had fallen considerably below the minimum, with parish relief. "The Rev. Mr. Turner was, in 1827, rector of Wilmslow, in Cheshire, a manufacturing district. The questions of the Committee of Emigration, and Mr. Turner's answers, show how the competition of human labour is maintained against machinery. 'Question: Has not the use of the power-loom superseded the use of the hand-loom? Answer: Undoubtedly; it would have superseded them much more than it has done, if the handloom weavers were not enabled to submit to a reduction of wages. Question: 'But in submitting he has accepted wages which are insufficient to support him, and looks to parochial contribution as the remainder of his support? Answer: Yes, and in fact the competition between the hand-loom and the power-loom is maintained out

acute effect in India. The Governor General reported 1834-35: "The misery hardly finds a parallel in the history of commerce. The bones of the cotton-weavers are bleaching the plains of India." No doubt, in turning them out of this "temporal" world, the machinery caused them no more than "a temporary inconvenience." For the rest, since machinery is continually seizing upon new fields of production, its temporary effect is really permanent. Hence, the character of independance and estrangement which the capitalist mode of production as a whole gives to the instruments of labour and to the product, as against the workman, is developed by means of machinery into a thorough antagonism.[1] Therefore, it is with the advent of machinery, that the workman for the first time brutally revolts against the instruments of labour.

The instrument of labour strikes down the labourer. This direct antagonism between the two comes out most strongly, whenever newly introduced machinery competes with handicrafts or manufactures, handed down from former times. But even in Modern Industry the continual improvement of machinery, and the development of the automatic system, has an analogous effect. "The object of improved machinery is to diminish manual labour, to provide for the performance of a process or the completion of a link in a manufacture by the aid of an iron instead of the human apparatus."[2] "The adaptation of power to machinery heretofore moved by hand, is almost of daily occurrence . . . the minor improvements in

of the poor-rates.' Thus degrading pauperism or expatriation, is the benefit which the industrious receive from the introduction of machinery, to be reduced from the respectable and in some degree independent mechanic, to the cringing wretch who lives on the debasing bread of charity. This they call a temporary inconvenience." ("A Prize Essay on the comparative merits of Competition and Co-operation." Lond., 1834, p. 29.)

[1] "The same cause which may increase the revenue of the country" (*i.e.*, as Ricardo explains in the same passage, the revenues of landlords and capitalists, whose wealth, from the economical point of view, forms the Wealth of the Nation), "may at the same time render the population redundant and deteriorate the condition of the labourer." (Ricardo, l. c., p. 469). "The constant aim and the tendency of every improvement in machinery is, in fact, to do away entirely with the labour of man, or to lessen its price by substituting the labour of women and children for that of grown-up men, or of unskilled for that of skilled workmen." (Ure, l. c., t. I., p. 35).

[2] "Rep. Insp. Fact. for 31st October, 1858," p. 43.

machinery having for their object economy of power, the production of better work, the turning off more work in the same time, or in supplying the place of a child, a female, or a man, are constant, and although sometimes apparently of no great moment, have somewhat important results."[1] "Whenever a process requires peculiar dexterity and steadiness of hand, it is withdrawn, as soon as possible, from the cunning workman, who is prone to irregularities of many kinds, and it is placed in charge of a peculiar mechanism, so self-regulating that a child can superintend it."[2] "On the automatic plan skilled labour gets progressively superseded."[3] "The effect of improvements in machinery, not merely in superseding the necessity for the employment of the same quantity of adult labour as before, in order to produce a given result, but in substituting one description of human labour for another, the less skilled for the more skilled, juvenile for adult, female for male, causes a fresh disturbance in the rate of wages."[4] "The effect of substituting the self-acting mule for the common mule, is to discharge the greater part of the men spinners, and to retain adolescents and children."[5] The extraordinary power of expansion of the factory system owing to accumulated practical experience, to the mechanical means at hand, and to constant technical progress, was proved to us by the giant strides of that system under the pressure of a shortened working day. But who, in 1860, the Zenith year of the English cotton industry, would have dreamt of the galloping improvements in machinery, and the corresponding displacement of working people, called into being during the following 3 years, under the stimulus of

[1] "Rep. Insp. Fact, for 31st October, 1856," p. 15.

[2] Ure, l. c., p. 19. "The great advantage of the machinery employed in brick-making consists in this, that the employer is made entirely independent of skilled labourers." ("Ch. Empl. Comm. V. Report," Lond., 1866, p. 180, n. 46.) Mr. A. Sturrock, superintendent of the machine department of the Great Northern Railway, says, with regard to the building of locomotives, &c.: "Expensive English workmen are being less used every day. The production of the workshops of England is being increased by the use of improved tools, and these tools are again served by a low class of labour . . . Formerly their skilled labour necessarily produced all the parts of engines. Now the parts of engines are produced by labour with less skill, but with good tools. By tools, I mean engineer's machinery, lathes, planing machines, drills, and so on. ("Royal Com. on Railways." Lond., 1867, Minutes of Evidence, n. 17,862 and 17,863.)

[3] Ure, l. c., p. 20. [4] Ure, l. c., p. 321. [5] Ure l. c. p. 23.

the American Civil War? A couple of examples from the Reports of the Inspectors of Factories will suffice on this point. A Manchester manufacturer states: "We formerly had 75 carding engines, now we have 12, doing the same quantity of work . . We are doing with fewer hands by 14, at a saving in wages of £10 a-week. Our estimated saving in waste is about 10 % in the quantity of cotton consumed." "In another fine-spinning mill in Manchester, I was informed that through increased speed and the adoption of some self-acting processes, a reduction had been made, in number, of a fourth in one department, and of above half in another, and that the introduction of the combing machine in place of the second carding, had considerably reduced the number of hands formerly employed in the carding-room." Another spinning mill is estimated to effect a saving of labour of 10 %. The Messrs. Gilmour, spinners at Manchester, state: "In our blowing-room department we consider our expense with new machinery is fully one-third less in wages and hands . . . in the jack-frame and drawing-frame room, about one-third less in expense, and likewise one-third less in hands; in the spinning-room about one-third less in expenses. But this is not all; when our yarn goes to the manufacturers, it is so much better by the application of our new machinery, that they will produce a greater quantity of cloth, and cheaper than from the yarn produced by old machinery."[1] Mr. Redgrave further remarks in the same Report: "The reduction of hands against increased production is, in fact, constantly taking place; in woollen mills the reduction commenced some time since, and is continuing; a few days since, the master of a school in the neighbourhood of Rochdale said to me, that the great falling off in the girls' school is not only caused by the distress, but by the changes of machinery in the woollen mills, in consequence of which a reduction of 70 short-timers had taken place."

[1] "Rep. Insp. Fact., 31st Oct., 1863," pp. 108, 109.

[2] l. c., p. 109. The rapid improvement of machinery, during the crisis, allowed the English manufacturers, immediately after the termination of the American civil war, and almost in no time, to glut the markets of the world again. Cloth, during the last six months of 1866, was almost unsaleable. Thereupon began the consignment of goods to India and China, thus naturally making the glut more intense. At the beginning of 1867 the manufacturers resorted to their usual way out of the difficulty, viz., reducing wages 5 per cent. The workpeople resisted, and said that the only

The following table shows the total result of the mechanical improvements in the English cotton industry due to the American civil war.

NUMBER OF FACTORIES.

	1858	1861	1868
England and Wales	2,046	2,715	2,405
Scotland	152	163	131
Ireland	12	9	13
United Kingdom	2,210	2,887	2,549

NUMBER OF POWER-LOOMS.

	1858	1861	1868
England and Wales	275,590	368,125	344,719
Scotland	21,624	30,110	31,864
Ireland	1,633	1,757	2,746
United Kingdom	298,847	399,992	379,329

NUMBER OF SPINDLES.

	1858	1861	1868
England and Wales	25,818,576	28,352,152	30,478,228
Scotland	2,041,129	1,915,398	1,397,546
Ireland	150,512	119,944	124,240
United Kingdom	28,010,217	30,387,494	32,000,014

NUMBER OF PERSONS EMPLOYED.

	1858	1861	1868
England and Wales	341,170	407,598	357,052
Scotland	34,698	41,237	39,809
Ireland	3,345	2,734	4,203
United Kingdom	379,213	451,569	401,064

Hence, between 1861 and 1868, 338 cotton factories disappeared, in other words more productive machinery on a larger scale was concentrated in the hands of a smaller number of capitalists. The number of power-looms decreased by 20,663; but since their product increased in the same period, an improved loom must have yielded more than an old one. Lastly the number of spindles increased by 1,612,541, while the number of operatives decreased by 50,505. The "temporary" misery, inflicted on the workpeople by the cotton-crisis, was heightened, and from being temporary made permanent, by the rapid and persistent progress of machinery.

remedy was to work short time, 4 days a-week; and their theory was the correct one. After holding out for some time, the self-elected captains of industry had to make up their minds to short time, with reduced wages in some places, and in others without.

But machinery not only acts as a competitor who gets the better of the workman, and is constantly on the point of making him superfluous. It is also a power inimical to him, and as such capital proclaims it from the roof tops, and as such makes use of it. It is the most powerful weapon for repressing strikes, those periodical revolts of the working class against the autocracy of capital.[1] According to Gaskell, the steam engine was from the very first an antagonist of human power, an antagonist that enabled the capitalist to tread under foot the growing claims of the workmen, who threatened the newly born factory system with a crisis.[2] It would be possible to write quite a history of the inventions, made since 1830, for the sole purpose of supplying capital with weapons against the revolts of the working class. At the head of these in importance, stands the self-acting mule, because it opened up a new epoch in the automatic system.[3]

Nasmyth, the inventor of the steam hammer, gives the following evidence before the Trades Union Commission, with regard to the improvements made by him in machinery and introduced in consequence of the wide-spread and long strikes of the engineers in 1851. "The characteristic feature of our modern mechanical improvements, is the introduction of self-acting tool machinery. What every mechanical workman has now to do, and what every boy can do, is not to work himself but to superintend the beautiful labour of the machine. The whole class of workmen that depend exclusively on their skill, is now done away with. Formerly, I employed four boys to every mechanic. Thanks to these new mechanical combinations, I have reduced the number of grown-up men from 1500 to 750. The result was a considerable increase in my profits."

Ure says of a machine used in calico printing: "At length

[1] "The relation of master and man in the blown-flint bottle trades amounts to a chronic strike." Hence the impetus given to the manufacture of pressed glass, in which the chief operations are done by machinery. One firm in Newcastle, who formerly produced 350,000 lbs. of blown-flint glass, now produces in its place 3,000,500 bs. of pressed glass. ("Ch Empl. Comm., Fourth Rep.," 1865, pp. 262, 263.)

[2] Gaskell. "The Manufacturing Population of England. London, 1833," pp. 3, 4.

[3] W. Fairbairn discovered several very important applications of machinery to the construction of machines, in consequence of strikes in his own workshops.

capitalists sought deliverance from this intolerable bondage" [namely the, in their eyes, burdensome terms of their contracts with the workmen] "in the resources of science, and were speedily re-instated in their legitimate rule, that of the head over the inferior members." Speaking of an invention for dressing warps: "Then the combined malcontents, who fancied themselves impregnably intrenched behind the old lines of division of labour, found their flanks turned and their defences rendered useless by the new mechanical tactics, and were obliged to surrender at discretion." With regard to the invention of the self-acting mule, he says: "A creation destined to restore order among the industrious classes. . . . This invention confirms the great doctrine already propounded, that when capital enlists science into her service, the refractory hand of labour will always be taught docility."[1] Although Ure's work appeared 30 years ago, at a time when the factory system was comparatively but little developed, it still perfectly expresses the spirit of the factory, not only by its undisguised cynicism, but also by the naïveté with which it blurts out the stupid contradictions of the capitalist brain. For instance, after propounding the "doctrine" stated above, that capital, with the aid of science taken into its pay, always reduces the refractory hand of labour to docility, he grows indignant because "it (physico-mechanical science) has been accused of lending itself to the rich capitalist as an instrument for harrassing the poor." After preaching a long sermon to show how advantageous the rapid development of machinery is to the working classes, he warns them, that by their obstinacy and their strikes they hasten that development. "Violent revulsions of this nature," he says, "display short-sighted man in the contemptible character of a self-tormentor." A few pages before he states the contrary. "Had it not been for the violent collisions and interruptions resulting from erroneous views among the factory operatives, the factory system would have been developed still more rapidly and beneficially for all concerned." Then he exclaims again: "Fortunately for the state of society in the cotton districts of Great Britain, the

[1] Ure, l. c., pp. 368-370.

improvements in machinery are gradual." "It" (improvement in machinery) "is said to lower the rate of earnings of adults by displacing a portion of them, and thus rendering their number superabundant as compared with the demand for their labour. It certainly augments the demand for the labour of children and increases the rate of *their* wages." On the other hand, this same dispenser of consolation defends the lowness of the children's wages on the ground that it prevents parents from sending their children at too early an age into the factory. The whole of his book is a vindication of a working day of unrestricted length; that Parliament should forbid children of 13 years to be exhausted by working 12 hours a day, reminds his liberal soul of the darkest days of the middle ages. This does not prevent him from calling upon the factory operatives to thank Providence, who by means of machinery has given them the leisure to think of their "immortal interests."[1]

SECTION 6.—THE THEORY OF COMPENSATION AS REGARDS THE WORK-PEOPLE DISPLACED BY MACHINERY.

James Mill, MacCulloch, Torrens, Senior, John Stuart Mill, and a whole series besides, of bourgeois political economists, insist that all machinery that displaces workmen, simultaneously and necessarily sets free an amount of capital adequate to employ the same identical workmen.[2]

Suppose a capitalist to employ 100 workmen, at £30 a year each, in a carpet factory. The variable capital annually laid out amounts, therefore, to £3000. Suppose, also, that he discharges 50 of his workmen, and employs the remaining 50 with machinery that costs him £1500. To simplify matters, we take no account of buildings, coal, &c. Further suppose that the raw material annually consumed costs £3000, both before and after the change.[3] Is any capital set free by this

[1] Ure, l. c. pp. 368, 7, 370, 280, 321, 281, 370, 475.

[2] Ricardo originally was also of this opinion, but afterwards expressly disclaimed it, with the scientific impartiality and love of truth characteristic of him. See l.c. ch. xxxi. "On Machinery."

[3] *Nota bene.* My illustration is entirely on the lines of those given by the above-named economists.

metamorphosis? Before the change, the total sum of £6000 consisted half of constant, and half of variable capital. After the change it consists of £4500 constant (£3000 raw material and £1500 machinery), and £1500 variable capital. The variable capital, instead of being one half, is only one quarter, of the total capital. Instead of being set free, a part of the capital is here locked up in such a way as to cease to be exchanged against labour-power: variable has been changed into constant capital. Other things remaining unchanged, the capital of £6000, can, in future, employ no more than 50 men. With each improvement in the machinery, it will employ fewer. If the newly introduced machinery had cost less than did the labour-power and implements displaced by it, if, for instance, instead of costing £1500, it had cost only £1000, a variable capital of £1000 would have been converted into constant capital, and locked up; and a capital of £500 would have been set free. The latter sum, supposing wages unchanged, would form a fund sufficient to employ about 16 out of the 50 men discharged; nay, less than 16, for, in order to be employed as capital, a part of this £500 must now become constant capital, thus leaving only the remainder to be laid out in labour-power.

But, suppose, besides, that the making of the new machinery affords employment to a greater number of mechanics, can that be called compensation to the carpet makers, thrown on the streets? At the best, its construction employs fewer men than its employment displaces. The sum of £1500 that formerly represented the wages of the discharged carpet-makers, now represents in the shape of machinery: (1) the value of the means of production used in the construction of that machinery, (2) the wages of the mechanics employed in its construction, and (3) the surplus-value falling to the share of their "master." Further, the machinery need not be renewed till it is worn out. Hence, in order to keep the increased number of mechanics in constant employment, one carpet manufacturer after another must displace workmen by machines.

As a matter of fact, the apologists do not mean this sort of

setting free. They have in their minds the means of subsistence of the liberated workpeople. It cannot be denied, in the above instance, that the machinery not only liberates 50 men, thus placing them at others' disposal, but, at the same time, it withdraws from their consumption, and sets free, means of subsistence to the value of £1500. The simple fact, by no means a new one, that machinery cuts off the workmen from their means of subsistence is, therefore, in economical parlance tantamount to this, that machinery liberates means of subsistence for the workman, or converts those means into capital for his employment. The mode of expression, you see, is everything. Nominibus mollire licet mala.

This theory implies that the £1500 worth of means of subsistence was capital that was being expanded by the labour of the 50 men discharged. That, consequently, this capital falls out of employment so soon as they commence their forced holidays, and never rests till it has found a fresh investment, where it can again be productively consumed by these same 50 men. That sooner or later, therefore, the capital and the workmen must come together again, and that, then, the compensation is complete. That the sufferings of the workmen displaced by machinery are therefore as transient as are the riches of this world.

In relation to the discharged workmen, the £1500 worth of means of subsistence never was capital. What really confronted them as capital, was the sum of £1500, afterwards laid out in machinery. On looking closer it will be seen that this sum represented part of the carpets produced in a year by the 50 discharged men, which part they received as wages from their employer in money instead of in kind. With the carpets in the form of money, they bought means of subsistence to the value of £1500. These means, therefore, were to them, not capital, but commodities, and they, as regards these commodities, were not wage-labourers, but buyers. The circumstance that they were "freed" by the machinery, from the means of purchase, changed them from buyers into non-buyers. Hence a lessened demand for those commodities—voilà tout. If this diminution be not compensated by an increase from some other

quarter, the market price of the commodities falls. If this state of things lasts for some time, and extends, there follows a discharge of workmen employed in the production of these commodities. Some of the capital that was previously devoted to production of necessary means of subsistence, has to become reproduced in another form. While prices fall, and capital is being displaced, the labourers employed in the production of necessary means of subsistence are in their turn "freed" from a part of their wages. Instead, therefore, of proving that, when machinery frees the workman from his means of subsistence, it simultaneously converts those means into capital for his further employment, our apologists, with their cut-and-dried law of supply and demand, prove, on the contrary, that machinery throws workmen on the streets, not only in that branch of production in which it is introduced, but also in those branches in which it is not introduced.

The real facts, which are travestied by the optimism of economists, are as follows: The labourers, when driven out of the workshop by the machinery, are thrown upon the labour market, and there add to the number of workmen at the disposal of the capitalists. In Part VII. of this book it will be seen that this effect of machinery, which, as we have seen, is represented to be a compensation to the working class, is on the contrary a most frightful scourge. For the present I will only say this: The labourers that are thrown out of work in any branch of industry, can no doubt seek for employment in some other branch. If they find it, and thus renew the bond between them and the means of subsistence, this takes place only by the intermediary of a new and additional capital that is seeking investment; not at all by the intermediary of the capital that formerly employed them and was afterwards converted into machinery. And even should they find employment, what a poor look-out is theirs! Crippled as they are by division of labour, these poor devils are worth so little outside their old trade, that they cannot find admission into any industries, except a few of inferior kind, that are over-supplied with underpaid workmen.[1] Further, every branch of industry

[1] A disciple of Ricardo, in answer to the insipidities of J. B. Say, remarks on this point: "Where division of labour is well developed, the skill of the labourer is

attracts each year a new stream of men, who furnish a contingent from which to fill up vacancies, and to draw a supply for expansion. So soon as machinery sets free a part of the workmen employed in a given branch of industry, the reserve men are also diverted into new channels of employment, and become absorbed in other branches; meanwhile the original victims, during the period of transition, for the most part starve and perish.

It is an undoubted fact that machinery, as such, is not responsible for "setting free" the workman from the means of subsistence, It cheapens and increases production in that branch which it seizes on, and at first makes no change in the mass of the means of subsistence produced in other branches. Hence, after its introduction, the society possesses as much, if not more, of the necessaries of life than before, for the labourers thrown out of work; and that quite apart from the enormous share of the annual produce wasted by the non-workers. And this is the point relied on by our apologists! The contradictions and antagonisms inseparable from the capitalist employment of machinery, do not exist, they say, since they do not arise out of machinery, as such, but out of its capitalist employment! Since therefore machinery, considered alone, shortens the hours of labour, but, when in the service of capital, lengthens them; since in itself it lightens labour, but when employed by capital, heightens the intensity of labour; since in itself it is a victory of man over the forces of nature, but in the hands of capital, makes man the slave of those forces; since in itself it increases the wealth of the producers, but in the hands of capital, makes them paupers—for all these reasons and others besides, says the bourgeois economist without more ado, it is clear as noonday that all these contradictions are a mere semblance of the reality, and that, as a matter of fact, they have neither an actual nor a theoretical existence. Thus

available only in that particular branch in which it has been acquired; he himself is a sort of machine. It does not therefore help matters one jot, to repeat in parrot fashion, that things have a tendency to find their level. On looking around us we cannot but see, that they are unable to find their level for a long time; and that when they do find it, the level is always lower than at the commencement of the process." ("An Inquiry into those Principles respecting the Nature of Demand," &c. Lond. 1821, p. 72.)

he saves himself from all further puzzling of the brain, and what is more, implicitly declares his opponent to be stupid enough to contend against, not the capitalistic employment of machinery, but machinery itself.

No doubt he is far from denying that temporary inconvenience may result from the capitalist use of machinery. But where is the medal without its reverse! Any employment of machinery, except by capital, is to him an impossibility. Exploitation of the workman by the machine is therefore, with him, identical with exploitation of the machine by the workman. Whoever, therefore, exposes the real state of things in the capitalistic employment of machinery, is against its employment in any way, and is an enemy of social progress![1] Exactly the reasoning of the celebrated Bill Sykes. "Gentlemen of the jury, no doubt the throat of this commercial traveller has been cut. But that is not my fault, it is the fault of the knife? Must we, for such a temporary inconvenience, abolish the use of the knife? Only consider! where would agriculture and trade be without the knife? Is it not as salutary in surgery, as it is knowing in anatomy? And in addition a willing help at the festive board? If you abolish the knife—you hurl us back into the depths of barbarism."

Although machinery necessarily throws men out of work in those industries into which it is introduced, yet it may, notwithstanding this, bring about an increase of employment in other industries. This effect, however, has nothing in common with the so-called theory of compensation. Since every article produced by a machine is cheaper than a similar article produced by hand, we deduce the following infallible law: If the total quantity of the article produced by machinery, be equal

[1] MacCulloch, amongst others, is a past master in this pretentious cretinism "If," he says, with the affected naiveté of a child of 8 years, "if it be advantageous, to develope the skill of the workman more and more, so that he is capable of producing, with the same or with a less quantity of labour, a constantly increasing quantity of commodities, it must also be advantageous, that he should avail himself of the help of such machinery as will assist him most effectively in the attainment of this result." (MacCulloch: "Princ. of Pol. Econ.," Lond. 1830, p. 166).

[2] "The inventor of the spinning machine has ruined India, a fact, however, that touches us but little." A. Thiers: De la propriété.—M. Thiers here confounds the spinning machine with the power-loom, "a fact, however, that touches us but little."

to the total quantity of the article previously produced by a handicraft or by manufacture, and now made by machinery, then the total labour expended is diminished. The new labour spent on the instruments of labour, on the machinery, on the coal, and so on, must necessarily be less than the labour displaced by the use of the machinery; otherwise the product of the machine would be as dear, or dearer, than the product of the manual labour. But, as a matter of fact, the total quantity of the article produced by machinery with a diminished number of workmen, instead of remaining equal to, by far exceeds the total quantity of the hand-made article that has been displaced. Suppose that 400,000 yards of cloth have been produced on power-looms by fewer weavers than could weave 100,000 yards by hand. In the quadrupled product there lies four times as much raw material. Hence the production of raw material must be quadrupled. But as regards the instruments of labour, such as buildings, coal, machinery, and so on, it is different; the limit up to which the additional labour required for their production can increase, varies with the difference between the quantity of the machine-made article, and the quantity of the same article that the same number of workmen could make by hand.

Hence, as the use of machinery extends in a given industry, the immediate effect is to increase production in the other industries that furnish the first with means of production. How far employment is thereby found for an increased number of men, depends, given the length of the working-day and the intensity of labour, on the composition of the capital employed, *i.e.*, on the ratio of its constant to its variable component. This ratio, in its turn, varies considerably with the extent to which machinery has already seized on, or is then seizing on, those trades. The number of the men condemned to work in coal and metal mines increased enormously owing to the progress of the English factory system; but during the last few decades this increase of number has been less rapid, owing to the use of new machinery in mining.[1] A new type of workman springs

[1] According to the census of 1861 (Vol. II., Lond., 1863), the number of people employed in coal mines in England and Wales, amounted to 246,613, of which 73,545

into life along with the machine, namely, its maker. We have already learnt that machinery has possessed itself even of this branch of production on a scale that grows greater every day.[1] As to raw material,[2] there is not the least doubt that the rapid strides of cotton spinning, not only pushed on with tropical luxuriance the growth of cotton in the United States, and with it the African slave trade, but also made the breeding of slaves the chief business of the border slave-states. When, in 1790, the first census of slaves was taken in the United States, their number was 697,000; in 1861 it had nearly reached four millions. On the other hand, it is no less certain that the rise of the English woollen factories, together with the gradual conversion of arable land into sheep pasture, brought about the superfluity of agricultural labourers that led to their being driven in masses into the towns. Ireland, having during the last twenty years reduced its population by nearly one half, is at this moment undergoing the process of still further reducing the number of its inhabitants, so as exactly to suit the requirements of its landlords and of the English woollen manufacturers.

When machinery is applied to any of the preliminary or intermediate stages through which the subject of labour has to pass on its way to completion, there is an increased yield of material in those stages, and simultaneously an increased demand for labour in the handicrafts or manufactures supplied by the produce of the machines. Spinning by machinery, for example, supplied yarn so cheaply and so abundantly that the

were under, and 173,067 were over 20 years. Of those under 20, 835 were between 5 and 10 years, 30,701 between 10 and 15 years, 42,010 between 15 and 19 years. The number employed in iron, copper, lead, tin, and other mines of every description, was 319,222.

[1] In England and Wales, in 1861, there were employed in making machinery, 60,807 persons, including the masters and their clerks, &c., also all agents and business people connected with this industry, but excluding the makers of small machines, such as sewing machines, &c., as also the makers of the operative parts of machines, such as spindles. The total number of civil engineers amounted to 3329.

[2] Since iron is one of the most important raw materials, let me here state that, in 1861, there were in England and Wales 125,771 operative iron founders, of whom 123,430 were males, 2341 females. Of the former 30,810 were under, and 92,620 over 20 years.

hand-loom weavers were, at first, able to work full time without increased outlay. Their earnings accordingly rose.[1] Hence a flow of people into the cotton-weaving trade, till at length the 800,000 weavers, called into existence by the Jenny, the throstle and the mule, were overwhelmed by the power-loom. So also, owing to the abundance of clothing materials produced by machinery, the number of tailors, seamstresses and needlewomen, went on increasing until the appearance of the sewing machine.

In proportion as machinery, with the aid of a relatively small number of workpeople, increases the mass of raw materials, intermediate products, instruments of labour, &c., the working-up of these raw materials and intermediate products becomes split up into numberless branches; social production increases in diversity. The factory system carries the social division of labour immeasurably further than does manufacture, for it increases the productiveness of the industries it seizes upon, in a far higher degree.

The immediate result of machinery is to augment surplus-value and the mass of products in which surplus-value is embodied. And, as the substances consumed by the capitalists and their dependants become more plentiful, so too do these orders of society. Their growing wealth, and the relatively diminished number of workmen required to produce the necessaries of life beget, simultaneously with the rise of new and luxurious wants, the means of satisfying those wants. A larger portion of the produce of society is changed into surplus produce, and a larger part of the surplus produce is supplied for consumption in a multiplicity of refined shapes. In other words, the production of luxuries increases.[2] The refined and varied forms of the products are also due to new relations with the markets of the world, relations that are created by Modern

[1] "A family of four grown up persons, with two children as winders, earned at the end of the last, and the beginning of the present century, by ten hours' daily labour, £4 a week. If the work was very pressing, they could earn more . . . . Before that, they had always suffered from a deficient supply of yarn." (Gaskell, l. c., pp. 25-27.)

[2] F. Engels in "Lage, &c.," points out the miserable condition of a large number of those who work on these very articles of luxury. See also numerous instances in the "Reports of the Childrens' Employment Commission."

Industry. Not only are greater quantities of foreign articles of luxury exchanged for home products, but a greater mass of foreign raw materials, ingredients, and intermediate products, are used as means of production in the home industries. Owing to these relations with the markets of the world, the demand for labour increases in the carrying trades, which split up into numerous varieties.[1]

The increase of the means of production and subsistence, accompanied by a relative diminution in the number of labourers, causes an increased demand for labour in making canals, docks, tunnels, bridges, and so on, works that can only bear fruit in the far future. Entirely new branches of production, creating new fields of labour, are also formed, as the direct result either of machinery or of the general industrial changes brought about by it. But the place occupied by these branches in the general production is, even in the most developed countries, far from important. The number of labourers that find employment in them is directly proportional to the demand, created by those industries, for the crudest form of manual labour. The chief industries of this kind are, at present, gas works, telegraphs, photography, steam navigation, and railways. According to the census of 1861 for England and Wales, we find in the gas industry (gasworks, production of mechanical apparatus, servants of the gas companies, &c.), 15,211 persons; in telegraphy, 2399; in photography, 2366; steam navigation, 3570; and in railways, 70,599, of whom the unskilled "navvies," more or less permanently employed, and the whole administrative and commercial staff, make up about 28,000. The total number of persons, therefore, employed in these five new industries amounts to 94,145.

Lastly, the extraordinary productiveness of modern industry, accompanied as it is by both a more extensive and a more intense exploitation of labour-power in all other spheres of production, allows of the unproductive employment of a larger and larger part of the working class, and the consequent

[1] In 1861, in England and Wales, there were 94,665 sailors in the merchant service.

reproduction, on a constantly extending scale, of the ancient domestic slaves under the name of a servant class, including men-servants, women-servants, lackeys, &c. According to the census of 1861, the population of England and Wales was 20,066,244; of these, 9,776,259 males, and 10,289,965 female. If we deduct from this population all who are too old or too young for work, all unproductive women, young persons and children, the "ideological" classes, such as government officials, priests, lawyers, soldiers, &c.; further, all who have no occupation but to consume the labour of others in the form of rent, interest, &c.; and, lastly, paupers, vagabonds, and criminals, there remain in round numbers eight millions of the two sexes of every age, including in that number every capitalist who is in any way engaged in industry, commerce, or finance. Among these, 8 millions are:

	PERSONS.
Agricultural labourers (including shepherds, farm servants, and maidservants living in the houses of farmers), . .	1,098,261
All who are employed in cotton, woollen, worsted, flax, hemp, silk, and jute factories, in stocking making and lace making by machinery, . . .	642,607[1]
All who are employed in coal mines and metal mines, ...	565,835
All who are employed in metal works (blast-furnaces, rolling mills, &c.), and metal manufactures of every kind, .	396,998[2]
The servant class, ...	1,208,648[3]

All the persons employed in textile factories and in mines, taken together, number 1,208,442; those employed in textile factories and metal industries, taken together, number

[1] Of these only 177,596 are males above 13 years of age.

[2] Of these, 30,501 are females.

[3] Of these, 137,447 males. None are included in the 1,208,648 who do not serve in private houses. Between 1861 and 1870 the number of male servants nearly doubled itself. It increased to 267,671. In the year 1847 there were 2694 gamekeepers (for the landlords' preserves), in 1869 there were 4921. The young servant girls in the houses of the London lower middle class are in common parlance called "slaveys."

1,039,605; in both cases less than the number of modern domestic slaves. What a splendid result of the capitalist exploitation of machinery!

SECTION 7.—REPULSION AND ATTRACTION OF WORKPEOPLE BY THE FACTORY SYSTEM. CRISES IN THE COTTON TRADE.

All political economists of any standing admit that the introduction of new machinery has a baneful effect on the workmen in the old handicrafts and manufactures with which this machinery at first competes. Almost all of them bemoan the slavery of the factory operative. And what is the great trump-card that they play? That machinery, after the horrors of the period of introduction and development have subsided, instead of diminishing, in the long run increases the number of the slaves of labour! Yes, political economy revels in the hideous theory, hideous to every "philanthropist" who believes in the eternal nature-ordained necessity for capitalist production, that after a period of growth and transition, even its crowning success, the factory system based on machinery, grinds down more workpeople than on its first introduction it throws on the streets.[1]

It is true that in some cases, as we saw from instances of English worsted and silk factories, an extraordinary extension

[1] Ganilh, on the contrary, considers the final result of the factory system to be an absolutely less number of operatives, at whose expense an increased number of "gens honnêtes" live and develop their well-known "perfectibilité perfectible." Little as he understands the movement of production, at least he feels, that machinery must needs be a very fatal institution, if its introduction converts busy workmen into paupers, and its development calls more slaves of labour into existence than it has suppressed. It is not possible to bring out the cretinism of his standpoint, except by his own words: "Les classes condamnées à produire et à consommer diminuent, et les classes qui dirigent le travail, qui soulagent, consolent, et éclairent toute la population, se multiplient. . . . . et s'approprient tous les bienfaits qui résultent de la diminution des frais du travail, de l'abondance des productions, et du bon marché des consommations. Dans cette direction, l'espèce humaine s'élève aux plus hautes conceptions du génie, pénètre dans les profondeurs mystérieuses de la religion, établit les principes salutaires de la morale (which consists in 's'approprier tous les bienfaits,' &c.), les lois tutélaires de la liberté (liberty of 'les classes condamnées à produire?') et du pouvoir, de l'obéissance et de la justice, du devoir et de l'humanité." For this twaddle see "Des Systèmes d'Economie Politique, &c., Par M. Ch. Ganilh." 2ème éd., Paris, 1821, t. II., p. 224, and see p. 212.

of the factory system may, at a certain stage of its development, be accompanied not only by a relative, but by an absolute decrease in the number of operatives employed. In the year 1860, when a special census of all the factories in the United Kingdom was taken by order of Parliament, the factories in those parts of Lancashire, Cheshire, and Yorkshire, included in the district of Mr. Baker, the factory inspector, numbered 652; 570 of these contained 85,622 power-looms, 6,819,146 spindles (exclusive of doubling spindles), employed 27,439 horse-power (steam), and 1390 (water), and 94,119 persons. In the year 1865, the same factories contained, looms 95,163, spindles 7,025,031, had a steam-power of 28,925 horses, and a water-power of 1445 horses, and employed 88,913 persons. Between 1860 and 1865, therefore, the increase in looms was 11%, in spindles 3%, and in engine-power 3%, while the number of persons employed decreased 5½%.[1] Between 1852 and 1862, considerable extension of the English woollen manufacture took place, while the number of hands employed in it remained almost stationary, showing how greatly the introduction of new machines had superseded the labour of preceding periods.[2] In certain cases, the increase in the number of hands employed is only apparent; that is, it is not due to the extension of the factories already established, but to the gradual annexation of connected trades; for instance, the increase in power-looms, and in the hands employed by them between 1838 and 1856, was, in the cotton trade, simply owing to the extension of this branch of industry; but in the other trades to the application of steam-

[1] "Reports of Insp. of Fact., 31 Oct., 1865," p. 58, sq. At the same time, however, means of employment for an increased number of hands was ready in 110 new mills with 11,625 looms, 628,756 spindles and 2695 total horse-power of steam and water (l. c.)

[2] "Reports, &c., for 31 Oct., 1862," p. 79. At the end of 1871, Mr. A. Redgrave, the factory i spector, in a lecture given at Bradford, in the New Mechanics' Institution, said: "What has struck me for some time past is the altered appearance of the woollen factories. Formerly they were filled with women and children, now machinery seems to do all the work. At my asking for an explanation of this from a manufacturer, he gave me the following: 'Under the old system I employed 63 persons; after the introduction of improved machinery I reduced my hands to 33, and lately, in consequence of new and extensive alterations, I have been in a position to reduce those 33 to 13'"

power to the carpet-loom, to the ribbon-loom, and to the linen-loom, which previously had been worked by the power of men.[1] Hence the increase of the hands in these latter trades was merely a symptom of a diminution in the total number employed. Finally, we have considered this question entirely apart from the fact, that everywhere, except in the metal industries, young persons (under 18), and women and children form the preponderating element in the class of factory hands.

Nevertheless, in spite of the mass of hands actually displaced and virtually replaced by machinery, we can understand how the factory operatives, through the building of more mills and the extension of old ones in a given industry, may become more numerous than the manufacturing workmen and handicraftsmen that have been displaced. Suppose, for example, that in the old mode of production, a capital of £500 is employed weekly, two-fifths being constant and three-fifths variable capital, *i.e.*, £200 being laid out in means of production, and £300, say £1 per man, in labour-power. On the introduction of machinery the composition of this capital becomes altered. We will suppose it to consist of four-fifths constant and one-fifth variable, which means that only £100 is now laid out in labour-power. Consequently, two-thirds of the workmen are discharged. If now the business extends, and the total capital employed grows to £1500 under unchanged conditions, the number of operatives employed will increase to 300, just as many as before the introduction of the machinery. If the capital further grows to £2000, 400 men will be employed, or one-third more than under the old system. Their numbers have, in point of fact, increased by 100, but relatively, *i.e.*, in proportion to the total capital advanced, they have diminished by 800, for the £2000 capital would, in the old state of things, have employed 1200 instead of 400 men. Hence, a relative decrease in the number of hands is consistent with an actual increase. We assumed above that while the total capital increases, its composition remains the same, because the conditions of production remain constant.

[1] See "Reports, &c., 31 Oct., 1856," p. 16.

But we have already seen that, with every advance in the use of machinery, the constant component of capital, that part which consists of machinery, raw material, &c., increases, while the variable component, the part laid out in labour-power, decreases. We also know that in no other system of production is improvement so continuous, and the composition of the capital employed so constantly changing as in the factory system. These changes are, however, continually interrupted by periods of rest, during which there is a mere quantitative extension of the factories on the existing technical basis. During such periods the operatives increase in number. Thus, in 1835, the total number of operatives in the cotton, woollen, worsted, flax, and silk factories of the United Kingdom was only 354,684; while in 1861 the number of the power-loom weavers alone (of both sexes and of all ages, from eight years upwards), amounted to 230,654. Certainly, this growth appears less important when we consider that in 1838 the hand-loom weavers with their families still numbered 800,000,[1] not to mention those thrown out of work in Asia, and on the Continent of Europe.

In the few remarks I have still to make on this point, I shall refer to some actually existing relations, the existence of which our theoretical investigation has not yet disclosed.

So long as, in a given branch of industry, the factory system extends itself at the expense of the old handicrafts or of manufacture, the result is as sure as is the result of an encounter between an army furnished with breach-loaders, and one armed with bows and arrows. This first period, during which machinery conquers its field of action, is of decisive importance owing to the extraordinary profits that it helps to produce. These profits not only form a source of accelerated accumulation, but also attract into the favoured sphere of production a large part of the additional social capital that is

[1] "The sufferings of the hand-loom weavers were the subject of an inquiry by a Royal Commission, but although their distress was acknowledged and lamented, the amelioration of their condition was left, and probably necessarily so, to the chances and changes of time, which it may now be hoped" [20 years later!] "have *nearly* obliterated those miseries, and not improbably by the present great extension of the power-loom." ("Rep. Insp. of Fact., 31 Oct., 1856," p. 15.)

being constantly created, and is ever on the look-out for new investments. The special advantages of this first period of fast and furious activity are felt in every branch of production that machinery invades. So soon, however, as the factory system has gained a certain breadth of footing and a definite degree of maturity, and, especially, so soon as its technical basis, machinery, is itself produced by machinery; so soon as coal mining and iron mining, the metal industries, and the means of transport have been revolutionised; so soon, in short, as the general conditions requisite for production by the modern industrial system have been established, this mode of production acquires an elasticity, a capacity for sudden extension by leaps and bounds that finds no hindrance except in the supply of raw material and in the disposal of the produce. On the one hand, the immediate effect of machinery is to increase the supply of raw material in the same way, for example, as the cotton gin augmented the production of cotton.[1] On the other hand, the cheapness of the articles produced by machinery, and the improved means of transport and communication furnish the weapons for conquering foreign markets. By ruining handicraft production in other countries, machinery forcibly converts them into fields for the supply of its raw material. In this way East India was compelled to produce cotton, wool, hemp, jute, and indigo for Great Britain.[2] By constantly making a part of the hands "supernumerary," modern industry, in all countries where it has taken root, gives a spur to emigration and to the colonization of foreign lands, which are thereby converted into settlements for growing the raw material of the mother country; just as Australia, for example, was converted into a colony for growing wool.[3] A new and international division of labour, a division

[1] Other ways in which machinery affects the production of raw material will be mentioned in the third book.

[2] EXPORT OF COTTON FROM INDIA TO GREAT BRITAIN.

1846.—34,540,143 lbs. 1860.—204,141,168 lbs. 1865.—445,947,600 lbs.

[3] EXPORT OF WOOL FROM INDIA TO GREAT BRITAIN.

1846.—4,570,581 lbs. 1860.—20,214,173 lbs. 1865.—20,679,111 lbs.

EXPORT OF WOOL FROM THE CAPE TO GREAT BRITAIN.

1846.—2,958,457 lbs. 1860.—16,574,345 lbs. 1865.—29,920,623 lbs.

EXPORT OF WOOL FROM AUSTRALIA TO GREAT BRITAIN.

1846.—21,789,346 lbs. 1860.—59,166,616 lbs. 1865.—109,734,261 lbs.

suited to the requirements of the chief centres of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production, for supplying the other part which remains a chiefly industrial field. This revolution hangs together with radical changes in agriculture which we need not here further inquire into.[1]

On the motion of Mr. Gladstone, the House of Commons ordered, on the 17th February, 1867, a return of the total quantities of grain, corn, and flour, of all sorts, imported into, and exported from, the United Kingdom, between the years 1831 and 1866. I give below a summary of the result. The flour is given in quarters of corn.

QUINQUENNIAL PERIODS AND THE YEAR 1866.

Annual Average.	1831-1835.	1836-1840.	1841-1845.	1846-1850.
Import (Qrs.) - - -	1,096,373	2,389,729	2,843,865	8,776,552
Export ,, - - -	225,363	251,770	139,056	155,461
Excess of Import over export. - - - -	871,110	2,137,959	2,704,809	8,621,091
Population.				
Yearly average in each period, - - - -	24,621,107	25,929,507	27,262,569	27,797,598
Average quantity of corn, &c., in qrs., consumed annually per head over and above the home produce consumed, - - -	0·036	0·082	0·099	0·310

[1] The economical development of the United States is itself a product of European, more especially of English modern industry. In their present form (1866) the States must still be considered a European colony.

EXPORT OF COTTON FROM THE UNITED STATES TO GREAT BRITAIN.

1846.—401,949,393 lbs. 1852.—765,630,543 lbs. 1859.—961,707,264 lbs. 1860.—1,115,890,608 lbs.

EXPORT OF CORN, &C., FROM THE UNITED STATES TO GREAT BRITAIN.

	1850.	1862.
Wheat, cwts.	16,202,312	41,033,503
Barley, ,, ...	3,669,653	6,624,800
Oats, ,, ...	3,174,801	4,426,994
Rye, ,, ...	388,749	7,108
Flour, ,, ...	3,819,440	7,207,113
Buckwheat, cwts.	1054	19,571

QUINQUENNIAL PERIODS, &c.—(CONTINUED.)

ANNUAL AVERAGE.	1851-1855.	1856-1860.	1861-1865.	1866.
Import (Qrs.) - - -	8,345,237	10,912,612	15,009,871	16,457,340
Export ,, - - - - -	307,491	341,150	302,754	216,218
Excess of Import over Export, - - - - -	8,037,746	10,572,462	14,707,117	16,241,122
POPULATION.				
Yearly average in each period, - - - -	27,572,923	28,391,544	29,381,460	29,935,404
Average quantity of corn, &c., in Qrs., consumed annually per head over and above the home produce consumed, - - - -	0·291	0·372	0·543	0·543

The enormous power, inherent in the factory system, of expanding by jumps, and the dependence of that system on the markets of the world, necessarily beget feverish production, followed by over-filling of the markets, whereupon contraction of the markets brings on crippling of production. The life of modern industry becomes a series of periods of moderate activity, prosperity, over-production, crisis and stagnation. The uncertainty and instability to which machinery subjects the employment, and consequently the conditions of existence, of the operatives become normal, owing to these periodic changes of the industrial cycle. Except in the periods of prosperity, there rages between the capitalists the most furious combat for the share of each in the markets. This share is directly proportional to the cheapness of the product. Besides the rivalry that this struggle begets in the application of improved machinery for replacing labour-power, and of new methods of production, there also comes a time in every indus-

	1850.		1862.
Maize, cwts.	5,473,161	... ...	11,694,818
Bere or Bigg (a sort of Barley), cwts. ...	2039	... ...	7675
Peas, cwts.	811,620	... ...	1,024,722
Beans, ,, ...	1,822,972	... ...	2,037,137
Total exports, ...	34,365,801	... ...	74,083,351

trial cycle, when a forcible reduction of wages beneath the value of labour-power, is attempted for the purpose of cheapening commodities.[1]

A necessary condition, therefore, to the growth of the number of factory hands, is a proportionally much more rapid growth of the amount of capital invested in mills. This growth, however, is conditioned by the ebb and flow of the industrial cycle. It is, besides, constantly interrupted by the technical progress that at one time virtually supplies the place of new workmen, at another, actually displaces old ones. This qualitative change in mechanical industry continually discharges hands from the factory, or shuts its doors against the fresh stream of recruits, while the purely quantitative extension of the factories absorbs not only the men thrown out of work, but also fresh contingents. The workpeople are thus continually both repelled and attracted, hustled from pillar to post, while, at the same time, constant changes take place in the sex, age, and skill of the levies.

The lot of the factory operatives will be best depicted by taking a rapid survey of the course of the English cotton industry.

[1] In an appeal made in July, 1866, to the Trade Societies of England, by the shoemakers of Leicester, who had been thrown on the streets by a lock-out, it is stated: "Twenty years ago the Leicester shoe trade was revolutionised by the introduction of riveting in the place of stitching. At that time good wages could be earned. Great competition was shown between the different firms as to which could turn out the neatest article. Shortly afterwards, however, a worse kind of competition sprang up, namely, that of underselling one another in the market. The injurious consequences soon manifested themselves in reductions of wages, and so sweepingly quick was the fall in the price of labour, that many firms now pay only one half of the original wages. And yet, though wages sink lower and lower, profits appear, with each alteration in the scale of wages, to increase." Even bad times are utilized by the manufacturers, for making exceptional profits by excessive lowering of wages, *i.e.*, by a direct robbery of the labourer's means of subsistence. One example (it has reference to the crisis in the Coventry silk weaving): "From information I have received from manufacturers as well as workmen, there seems to be no doubt that wages have been reduced to a greater extent than either the competition of the foreign producers, or other circumstances have rendered necessary . . . . the majority of weavers are working at a reduction of 30 to 40 per cent. in their wages. A piece of ribbon for making which the weaver got 6s. or 7s. five years back, now only brings them 3s. 3d. or 3s. 6d.; other work is now priced at 2s. and 2s. 3d. which was formerly priced at 4s. and 4s 3d. The reduction in wage seems to have been carried to a greater extent than is necessary for increasing demand. Indeed, the reduction in the cost of weaving, in the case of many descriptions of ribbons, has not been accompanied by any corresponding reduction in the selling price of the manufactured article." (Mr. F. D. Longe's Report. "Ch. Emp. Com., V. Rep., 1866," p. 114, 1.)

From 1770 to 1815 this trade was depressed or stagnant for 5 years only. During this period of 45 years the English manufacturers had a monopoly of machinery and of the markets of the world. From 1815 to 1821 depression; 1822 and 1823 prosperity; 1824 abolition of the laws against Trades' Unions, great extension of factories everywhere; 1825 crisis; 1826 great misery and riots among the factory operatives; 1827 slight improvement; 1828 great increase in power-looms, and in exports; 1829 exports, especially to India, surpass all former years; 1830 glutted markets, great distress; 1831 to 1833 continued depression, the monopoly of the trade with India and China withdrawn from the East India Company; 1834 great increase of factories and machinery, shortness of hands. The new poor law furthers the migration of agricultural labourers into the factory districts. The country districts swept of children. White slave trade; 1835 great prosperity, contemporaneous starvation of the handloom weavers; 1836 great prosperity; 1837 and 1838 depression and crisis; 1839 revival; 1840 great depression, riots, calling out of the military; 1841 and 1842 frightful suffering among the factory operatives; 1842 the manufacturers lock the hands out of the factories in order to enforce the repeal of the Corn Laws. The operatives stream in thousands into the towns of Lancashire and Yorkshire, are driven back by the military, and their leaders brought to trial at Lancaster; 1843 great misery; 1844 revival; 1845 great prosperity; 1846 continued improvement at first, then reaction. Repeal of the Corn Laws; 1847 crisis, general reduction of wages by 10 and more per cent. in honour of the "big loaf;" 1848 continued depression; Manchester under military protection; 1849 revival; 1850 prosperity; 1851 falling prices, low wages, frequent strikes; 1852 improvement begins, strikes continue, the manufacturers threaten to import foreign hands; 1853 increasing exports. Strike for 8 months, and great misery at Preston; 1854 prosperity, glutted markets; 1855 news of failures stream in from the United States, Canada, and the Eastern markets; 1856 great prosperity; 1857 crisis; 1858 improvement; 1859 great prosperity, increase in factories; 1860

Zenith of the English cotton trade, the Indian, Australian, and other markets so glutted with goods that even in 1863 they had not absorbed the whole lot; the French Treaty of Commerce, enormous growth of factories and machinery; 1861 prosperity continues for a time, reaction, the American civil war, cotton famine; 1862 to 1863 complete collapse.

The history of the cotton famine is too characteristic to dispense with dwelling upon it for a moment. From the indications as to the condition of the markets of the world in 1860 and 1861, we see that the cotton famine came in the nick of time for the manufacturers, and was to some extent advantageous to them, a fact that was acknowledged in the reports of the Manchester Chamber of Commerce, proclaimed in Parliament by Palmerston and Derby, and confirmed by events.[1] No doubt, among the 2887 cotton mills in the United Kingdom in 1861, there were many of small size. According to the report of Mr. A. Redgrave, out of the 2109 mills included in his district, 392 or 19% employed less than ten horse-power each; 345, or 16% employed 10 H. P., and less than 20 H. P.; while 1372 employed upwards of 20 H. P.[2] The majority of the small mills were weaving sheds, built during the period of prosperity after 1858, for the most part by speculators, of whom one supplied the yarn, another the machinery, a third the buildings, and were worked by men who had been overlookers, or by other persons of small means. These small manufacturers mostly went to the wall. The same fate would have overtaken them in the commercial crisis that was staved off only by the cotton famine. Although they formed one-third of the total number of manufacturers, yet their mills absorbed a much smaller part of the capital invested in the cotton trade. As to the extent of the stoppage, it appears from authentic estimates, that in October 1862, 60·3% of the spindles, and 58% of the looms were standing. This refers to the cotton trade as a whole, and, of course, requires considerable modification for individual districts. Only very few mills worked full time (60 hours a week), the remainder worked at intervals. Even in those few cases where full time was

[1] Conf. Reports of Insp. of Fact. 31st October, 1862, p. 30. [2] l. c., p. 19.

worked, and at the customary rate of piece-wage, the weekly wages of the operatives necessarily shrank, owing to good cotton being replaced by bad, Sea Island by Egyptian (in fine spinning mills), American and Egyptian by Surat, and pure cotton by mixings of waste and Surat. The shorter fibre of the Surat cotton and its dirty condition, the greater fragility of the thread, the substitution of all sorts of heavy ingredients for flour in sizing the warps, all these lessened the speed of the machinery, or the number of the looms that could be superintended by one weaver, increased the labour caused by defects in the machinery, and reduced the piece-wage by reducing the mass of the product turned off. Where Surat cotton was used, the loss to the operatives when on full time, amounted to 20, 30, and more per cent. But besides this, the majority of the manufacturers reduced the rate of piece-wage by 5, 7½, and 10 per cent. We can therefore conceive the situation of those hands who were employed for only 3, 3½ or 4 days a week, or for only 6 hours a day. Even in 1863, after a comparative improvement had set in, the weekly wages of spinners and of weavers were 3s. 4d., 3s. 10d., 4s. 6d. and 5s. 1d.[1] Even in this miserable state of things, however, the inventive spirit of the master never stood still, but was exercised in making deductions from wages. These were to some extent inflicted as a penalty for defects in the finished article that were really due to his bad cotton and to his unsuitable machinery. Moreover, where the manufacturer owned the cottages of the workpeople, he paid himself his rents by deducting the amount from these miserable wages. Mr. Redgrave tells us of self-acting minders (operatives who manage a pair of self-acting mules) "earning at the end of a fortnight's full work 8s. 11d., and that from this sum was deducted the rent of the house, the manufacturer, however, returning half the rent as a gift. The minders took away the sum of 6s. 11d. In many places the self-acting minders ranged from 5s. to 9s. per week, and the weavers from 2s. to 6s. per week, during the latter part of 1862."[2] Even when working short time the rent was frequently deducted from the wages of the operatives.[3] No

[1] "Rep. Insp. of Fact., 31st October, 1865," pp. 41-45.

[2] "Rep. Insp. of Fact., 31st October, 1863." [3] l. c., p. 51.

wonder that in some parts of Lancashire a kind of famine fever broke out. But more characteristic than all this, was the revolution that took place in the process of production at the expense of the workpeople. Experimenta in corpore vili, like those of anatomists on frogs, were formally made. "Although," says Mr. Redgrave, "I have given the actual earnings of the operatives in the several mills, it does not follow that they earn the same amount week by week. The operatives are subject to great fluctuation from the constant experimentalizing of the manufacturers . . . . the earnings of the operatives rise and fall with the quality of the cotton mixings; sometimes they have been within 15 per cent. of former earnings, and then, in a week or two, they have fallen off from 50 to 60 per cent."[1] These experiments were not made solely at the expense of the workman's means of subsistence. His five senses also had to pay the penalty. "The people who are employed in making up Surat cotton complain very much. They inform me, on opening the bales of cotton there is an intolerable smell, which causes sickness . . . . In the mixing, scribbling and carding rooms, the dust and dirt which are disengaged, irritate the air passages, and give rise to cough and difficulty of breathing. A disease of the skin, no doubt from the irritation of the dirt contained in the Surat cotton, also prevails . . . The fibre being so short, a great amount of size, both animal and vegetable, is used . . . . Bronchitis is more prevalent owing to the dust. Inflammatory sore throat is common, from the same cause. Sickness and dyspepsia are produced by the frequent breaking of the weft, when the weaver sucks the weft through the eye of the shuttle." On the other hand, the substitutes for flour were a Fortunatus' purse to the manufacturers, by increasing the weight of the yarn. They caused "15 lbs. of raw material to weigh 26 lbs. after it was woven."[2] In the Report of Inspectors of Factories for 30th April, 1864, we read as follows: "The trade is availing itself of this resource at present to an extent which is even discreditable. I have heard on good authority of a cloth weighing 8 lbs. which was made of $5\frac{1}{4}$ lbs. cotton and $2\frac{3}{4}$ lbs.

[1] l. c., pp. 50-51. [2] l. c., pp., 62-63.

size; and of another cloth weighing $5\frac{1}{4}$ lbs., of which 2 lbs. was size. These were ordinary export shirtings. In cloths of other descriptions, as much as 50 per cent. size is sometimes added; so that a manufacturer may, and does truly boast, that he is getting rich by selling cloth for less money per pound than he paid for the mere yarn of which they are composed."[1] But the workpeople had to suffer, not only from the experiments of the manufacturers inside the mills, and of the municipalities outside, not only from reduced wages and absence of work, from want and from charity, and from the eulogistic speeches of lords and commons. "Unfortunate females who, in consequence of the cotton famine, were at its commencement thrown out of employment, and have thereby become outcasts of society; and now, though trade has revived, and work is plentiful, continue members of that unfortunate class, and are likely to continue so. There are also in the borough more youthful prostitutes than I have known for the last 25 years."[2]

We find then, in the first 45 years of the English cotton trade, from 1770 to 1815, only 5 years of crisis and stagnation; but this was the period of monopoly. The second period from 1815 to 1863 counts, during its 48 years, only 20 years of revival and prosperity against 28 of depression and stagnation. Between 1815 and 1830 the competition with the continent of Europe and with the United States sets in. After 1833, the extension of the Asiatic markets is enforced by "destruction of the human race" (the wholesale extinction of Indian handloom weavers). After the repeal of the Corn Laws, from 1846 to 1863, there are 8 years of moderate activity and prosperity against 9 years of depression and stagnation. The condition of the adult male operatives, even during the years of prosperity, may be judged from the note subjoined.[3]

[1] Rep. &c. 30th April, 1864., p. 27.

[2] From a letter of Mr. Harris, Chief Constable of Bolton, in Rep. of Insp. of Fact. 31st October, 1865, pp. 61-62.

[3] In an appeal, dated 1863, of the factory operatives of Lancashire, &c., for the purpose of forming a society for organised emigration, we find the following: "That a large emigration of factory workers is now absolutely essential to raise them from their present prostrate condition, few will deny; but to show that a continuous stream of emigration is at all times demanded, and, without which it is impossible

SECTION 8.—REVOLUTION EFFECTED IN MANUFACTURE, HANDICRAFTS, AND DOMESTIC INDUSTRY BY MODERN INDUSTRY.

a. Overthrow of Co-operation based on Handicraft and on the Division of Labour.

We have seen how machinery does away with co-operation based on handicrafts, and with manufacture based on the division of handicraft labour. An example of the first sort is the mowing-machine; it replaces co-operation between mowers. A striking example of the second kind, is the needle-making machine. According to Adam Smith, 10 men, in his day, made in co-operation, over 48,000 needles a-day. On the other hand, a single needle-machine makes 145,000 in a working day of 11 hours. One woman or one girl superintends four such machines, and so produces near upon 600,000 needles in a day, and upwards of 3,000,000 in a week.[1] A single machine, when it takes the place of co-operation or of manufacture, may itself serve as the basis of an industry of a handicraft character. Still, such a return to handicrafts is but a transition to the

for them to maintain their position in ordinary times, we beg to call attention to the subjoined facts :—In 1814 the official value of cotton goods exported was £17,665,378, whilst the real marketable value was £20,070,824. In 1858 the official value of cotton goods exported, was £182,221,681; but the real or marketable value was only £43,001,322, being a ten-fold quantity sold for little more than double the former price. To produce results so disadvantageous to the country generally, and to the factory workers in particular, several causes have co-operated, which, had circumstances permitted, we should have brought more prominently under your notice; suffice it for the present to say that the most obvious one is the constant redundancy of labour, without which a trade so ruinous in its effects never could have been carried on, and which requires a constantly extending market to save it from annihilation. Our cotton mills may be brought to a stand by the periodical stagnations of trade, which, under present arrangements, are as inevitable as death itself; but the human mind is constantly at work, and although we believe we are under the mark in stating that six millions of persons have left these shores during the last 25 years, yet, from the natural increase of population, and the displacement of labour to cheapen production, a large percentage of the male adults in the most prosperous times find it impossible to obtain work in factories on any conditions whatever." ("Reports of Insp. of Fact., 30th April, 1863," pp. 51-52.) We shall, in a later chapter, see how our friends, the manufacturers, endeavoured, during the catastrophe in the cotton trade, to prevent by every means, including State interference, the emigration of the operatives.

[1] "Ch. Empl. Comm. IV. Report, 1864," p. 108, n. 447.

factory system, which, as a rule, makes its appearance so soon as the human muscles are replaced, for the purpose of driving the machines, by a mechanical motive power, such as steam or water. Here and there, but in any case only for a time, an industry may be carried on, on a small scale, by means of mechanical power. This is effected by hiring steam power, as is done in some of the Birmingham trades, or by the use of small caloric-engines, as in some branches of weaving.[1] In the Coventry silk weaving industry the experiment of "cottage factories" was tried. In the centre of a square surrounded by rows of cottages, an engine-house was built and the engine connected by shafts with the looms in the cottages. In all cases the power was hired at so much per loom. The rent was payable weekly, whether the looms worked or not. Each cottage held from 2 to 6 looms; some belonged to the weaver, some were bought on credit, some were hired. The struggle between these cottage factories and the factory proper, lasted over 12 years. It ended with the complete ruin of the 300 cottage-factories.[2] Wherever the nature of the process did not involve production on a large scale, the new industries that have sprung up in the last few decades, such as envelope making, steel-pen making, &c., have, as a general rule, first passed through the handicraft stage, and then the manufacturing stage, as short phases of transition to the factory stage. The transition is very difficult in those cases where the production of the article by manufacture consists, not of a series of graduated processes, but of a great number of disconnected ones. This circumstance formed a great hindrance to the establishment of steel-pen factories. Nevertheless, about 15 years ago, a machine was invented that automatically performed 6 separate operations at once. The first steel-pens were supplied by the handicraft system, in the year 1820, at £7 4s. the gross; in 1830 they were supplied by manufacture at 8s., and to-day the factory

[1] In the United States the restoration in this way, of handicrafts based on machinery is frequent; and therefore, when the inevitable transition to the factory system shall take place, the ensuing concentration will, compared with Europe and even with England, stride on in seven-league boots.

[2] See "Rep. of Insp. of Fact, 31st Oct., 1865," p. 64.

system supplies them to the trade at from 2s. to 6d. the gross.[1]

b. Re-action of the Factory System on Manufacture and Domestic Industries.

Along with the development of the factory system and of the revolution in agriculture that accompanies it, production in all the other branches of industry not only extends, but alters its character. The principle, carried out in the factory system, of analysing the process of production into its constituent phases, and of solving the problems thus proposed by the application of mechanics, of chemistry, and of the whole range of the natural sciences, becomes the determining principle everywhere. Hence, machinery squeezes itself into the manufacturing industries first for one detail process, then for another. Thus the solid crystal of their organisation, based on the old division of labour, becomes dissolved, and makes way for constant changes. Independently of this, a radical change takes place in the composition of the collective labourer, a change of the persons working in combination. In contrast with the manufacturing period, the division of labour is thenceforth based, wherever possible, on the employment of women, of children of all ages, and of unskilled labourers, in one word, on cheap labour, as it is characteristically called in England. This is the case not only with all production on a large scale, whether employing machinery or not, but also with the so-called domestic industry, whether carried on in the houses of the workpeople or in small workshops. This modern so-called domestic industry has nothing, except the name, in common with the old-fashioned domestic industry, the existence of which presupposes independent urban handicrafts, independent peasant farming, and above all, a dwelling-house for the labourer

[1] Mr. Gillott erected in Birmingham the first steel-pen factory on a large scale. It produced, so early as 1851, over 180,000,000 of pens yearly, and consumed 120 tons of steel. Birmingham has the monopoly of this industry in the United Kingdom, and at present produces thousands of millions of steel pens. According to the Census of 1861, the number of persons employed was 1428, of whom 1268 females from 5 years of age upwards.

and his family. That old-fashioned industry has now been converted into an outside department of the factory, the manufactory, or the warehouse. Besides the factory operatives, the manufacturing workmen and the handicraftsmen, whom it concentrates in large masses at one spot, and directly commands, capital also sets in motion, by means of invisible threads, another army; that of the workers in the domestic industries, who dwell in the large towns and are also scattered over the face of the country. An example: The shirt factory of Messrs. Tillie at Londonderry, which employs 1000 operatives in the factory itself, and 9000 people spread up and down the country and working in their own houses.[1]

The exploitation of cheap and immature labour-power is carried out in a more shameless manner in modern Manufacture than in the factory proper. This is because the technical foundation of the factory system, namely, the substitution of machines for muscular power, and the light character of the labour, is almost entirely absent in Manufacture, and at the same time women and over-young children are subjected, in a most unconscionable way, to the influence of poisonous or injurious substances. This exploitation is more shameless in the so-called domestic industry than in manufactures, and that because the power of resistance in the labourers decreases with their dissemination; because a whole series of plundering parasites insinuate themselves between the employer and the workman; because a domestic industry has always to compete. either with the factory system, or with manufacturing in the same branch of production; because poverty robs the workman of the conditions most essential to his labour, of space, light and ventilation; because employment becomes more and more irregular; and, finally, because in these the last resorts of the masses made "redundant" by Modern Industry and Agriculture, competition for work attains its maximum. Economy in the means of production, first systematically carried out in the factory system, and there, from the very beginning, coincident with the most reckless squandering of labour-power, and robbery of the conditions normally requisite for labour—this

[1] Ch. Empl. Comm., II. Rep. 1864, p. LXVIII., n. 415.

economy now shows its antagonistic and murderous side more and more in a given branch of industry, the less the social productive power of labour and the technical basis for a combination of processes are developed in that branch.

c. Modern Manufacture.

I now proceed, by a few examples, to illustrate the principles laid down above. As a matter of fact, the reader is already familiar with numerous instances given in the chapter on the working day. In the hardware manufactures of Birmingham and the neighbourhood, there are employed, mostly in very heavy work, 30,000 children and young persons, besides 10,000 women. There they are to be seen in the unwholesome brass-foundries, button factories, enamelling, galvanizing, and lackering works.[1] Owing to the excessive labour of their work-people, both adult and non-adult, certain London houses where newspapers and books are printed, have got the ill-omened name of "slaughter-houses."[2] Similar excesses are practised in bookbinding, where the victims are chiefly women, girls, and children; young persons have to do heavy work in rope-walks and night-work in salt mines, candle manufactories, and chemical works; young people are worked to death at turning the looms in silk weaving, when it is not carried on by machinery.[3] One of the most shameful, the most dirty, and the worst paid kinds of labour, and one on which women and young girls are by preference employed, is the sorting of rags. It is well known that Great Britain, apart from its own immense store of rags, is the emporium for the rag trade of the whole world. They flow in from Japan, from the most remote States of South America, and from the Canary Islands. But the chief sources of their supply are Germany, France, Russia, Italy, Egypt, Turkey, Belgium, and Holland. They are used for manure, for making bed-flocks, for shoddy, and they

[1] And now forsooth children are employed at file-cutting in Sheffield.

[2] Ch. Empl. Comm. V. Rep. 1866, p. 3, n. 24, p. 6, n. 55, 56, p. 7, n. 59, 60.

[3] L.c. pp. 114, 115, n. 6, 7. The commissioner justly remarks that though as a rule machines take the place of men, here literally young persons replace machines.

serve as the raw material of paper. The rag-sorters are the medium for the spread of small-pox and other infectious diseases, and they themselves are the first victims.[1] A classical example of over-work, of hard and inappropriate labour, and of its brutalising effects on the workman from his childhood upwards, is afforded not only by coal-mining and miners generally, but also by tile and brick making, in which industry the recently invented machinery is, in England, used only here and there. Between May and September the work lasts from 5 in the morning till 8 in the evening, and where the drying is done in the open air, it often lasts from 4 in the morning till 9 in the evening. Work from 5 in the morning till 7 in the evening is considered "reduced" and "moderate." Both boys and girls of 6 and even of 4 years of age are employed. They work for the same number of hours, often longer, than the adults. The work is hard and the summer heat increases the exhaustion. In a certain tile field at Mosley, *e.g.*, a young woman, 24 years of age, was in the habit of making 2000 tiles a day, with the assistance of 2 little girls, who carried the clay for her, and stacked the tiles. These girls carried daily 10 tons up the slippery sides of the clay pits, from a depth of 30 feet, and then for a distance of 210 feet. "It is impossible for a child to pass through the purgatory of a tile-field without great moral degradation . . . the low language, which they are accustomed to hear from their tenderest years, the filthy, indecent, and shameless habits, amidst which, unknowing, and half wild, they grow up, make them in after life lawless, abandoned, dissolute. . . . . A frightful source of demoralization is the mode of living. Each moulder, who is always a skilled labourer, and the chief of a group, supplies his 7 subordinates with board and lodging in his cottage. Whether members of his family or not, the men, boys, and girls all sleep in the cottage, which contains generally two, exceptionally 3 rooms, all on the ground floor, and badly ventilated. These people are so exhausted after the day's hard work, that neither the rules of health, of cleanliness, nor of decency are in the

[1] See the Report on the rag trade, and numerous details in Public Health, VIII. Rep. Lond. 1866, app. pp. 196, 208.

least observed. Many of these cottages are models of untidiness, dirt, and dust. . . . The greatest evil of the system that employs young girls on this sort of work, consists in this, that, as a rule, it chains them fast from childhood for the whole of their after-life to the most abandoned rabble. They become rough, foul-mouthed boys, before Nature has taught them that they are women. Clothed in a few dirty rags, the legs naked far above the knees, hair and face besmeared with dirt, they learn to treat all feelings of decency and of shame with contempt. During meal-times they lie at full length in the fields, or watch the boys bathing in a neighbouring canal. Their heavy day's work at length completed, they put on better clothes, and accompany the men to the public houses." That excessive insobriety is prevalent from childhood upwards among the whole of this class, is only natural. "The worst is that the brickmakers despair of themselves. You might as well, said one of the better kind to a chaplain of Southallfield, try to raise and improve the devil as a brickie, sir!"[1]

As to the manner in which capital effects an economy in the requisites of labour, in modern Manufacture (in which I include all workshops of larger size, except factories proper), official and most ample material bearing on it is to be found in the Public Health Reports IV. (1863) and VI. (1864). The description of the workshops, more especially those of the London printers and tailors, surpasses the most loathsome phantasies of our romance writers. The effect on the health of the workpeople is self-evident. Dr. Simon, the chief medical officer of the Privy Council and the official editor of the "Public Health Reports," says: "In my fourth Report (1863) I showed, how it is practically impossible for the workpeople to insist upon that which is their first sanitary right, viz., the right that, no matter what the work for which their employer brings them together, the labour, so far as it depends upon him, should be freed from all avoidably unwholesome conditions. I pointed out, that while the workpeople are practically incapable of doing themselves this sanitary justice, they are

[1] Ch. Empl. Comm. V. Rep., 1866, xvi., n. 96, 97, and p. 130, n. 39, 61. See also III. Rep., 1864, p. 48, 56.

unable to obtain any effective support from the paid administrations of the sanitary police. . . . The life of myriads of workmen and workwomen is now uselessly tortured and shortened by the never-ending physical suffering that their mere occupation begets."[1] In illustration of the way in which the workrooms influence the state of health, Dr. Simon gives the following table of mortality.[2]

Number of persons of all ages employed in the respective industries.	Industries compared as regards health.	Death rate per 100,000 men in the respective industries between the stated ages.		
		Age 25-35.	Age 35-45.	Age 45-55.
958,265	Agriculture in England & Wales	743	805	1,145
22,301 men 12,379 women	London tailors	958	1,262	2,093
13,803	London printers	894	1,747	2,367

d. Modern Domestic Industry.

I now come to the so-called domestic industry. In order to get an idea of the horrors of this sphere, in which capital conducts its exploitation in the background of modern mechanical industry, one must go to the apparently quite idyllic trade of nail-making,[3] carried on in a few remote villages of England. In this place, however, it will be enough to give a few examples from those branches of the lace-making and straw-plaiting

[1] Public Health. Sixth Rep. Lond. 1864, p. 31.

[2] l. c., p. 30. Dr. Simon remarks that the mortality among the London tailors and printers between the ages of 25 and 35 is in fact much greater, because the employers in London obtain from the country a great number of young people up to 30 years of age, as "apprentices" and "improvers," who come for the purpose of being perfected in their trade. These figure in the census as Londoners, they swell out the number of heads on which the London death-rate is calculated, without adding proportionally to the number of deaths in that place. The greater part of them in fact return to the country, and especially in cases of severe illness. (l. c.)

[3] I allude here to hammered nails, as distinguished from nails cut out and made by machinery. See Child. Empl. Comm., Third Rep. p. xi. p. xix. n. 125-130, p. 53, n. 11, p. 114, n. 487, p. 137, n. 674.

industries that are not yet carried on by the aid of machinery, and that as yet do not compete with branches carried on in factories or in manufactories.

Of the 150,000 persons employed in England in the production of lace, about 10,000 fall under the authority of the Factory Act, 1861. Almost the whole of the remaining 140,000 are women, young persons, and children of both sexes, the male sex, however, being weakly represented. The state of health of this cheap material for exploitation will be seen from the following table, computed by Dr. Trueman, physician to the Nottingham General Dispensary. Out of 686 female patients who were lace makers, most of them between the ages of 17 and 24, the number of consumptive ones were:

1852.—1 in 45.	1855.—1 in 18.	1858.—1 in 15.
1853.—1 in 28.	1856.—1 in 15.	1859.—1 in 9.
1854.—1 in 17.	1857.—1 in 13.	1860.—1 in 8.
	1861.—1 in 8.[1]	

This progress in the rate of consumption ought to suffice for the most optimist of progressists, and for the biggest hawker of lies among the Free Trade bagmen of Germany.

The Factory Act of 1861 regulates the actual making of the lace, so far as it is done by machinery, and this is the rule in England. The branches that we are now about to examine, solely with regard to those of the workpeople who work at home, and not those who work in manufactories or warehouses, fall into two divisions, viz. (1), finishing; (2), mending. The former gives the finishing touches to the machine-made lace, and includes numerous sub-divisions.

The lace finishing is done either in what are called "Mistresses' Houses," or by women in their own houses, with or without the help of their children. The women who keep the "Mistresses' Houses" are themselves poor. The workroom is in a private house. The mistresses take orders from manufacturers, or from warehousemen, and employ as many women, girls, and young children as the size of their rooms and the fluctuating demand of the business will allow. The number

[1] Ch. Empl. Comm., II. Rep., p. xxii., n. 166.

of the workwomen employed in these workrooms varies from 20 to 40 in some, and from 10 to 20 in others. The average age at which the children commence work is six years, but in many cases it is below five. The usual working hours are from 8 in the morning till eight in the evening, with 1½ hours for meals, which are taken at irregular intervals, and often in the foul workrooms. When business is brisk, the labour frequently lasts from 8 or even 6 o'clock in the morning till 10, 11, or 12 o'clock at night. In English barracks the regulation space allotted to each soldier is 500-600 cubic feet, and in the military hospitals 1200 cubic feet. But in those finishing styes there are but 67 to 100 cubic feet to each person. At the same time the oxygen of the air is consumed by gas-lights. In order to keep the lace clean, and although the floor is tiled or flagged, the children are often compelled, even in winter, to pull off their shoes. "It is not at all uncommon in Nottingham to find 14 to 20 children huddled together in a small room, of, perhaps, not more than 12 feet square, and employed for 15 hours out of the 24, at work that of itself is exhausting, from its weariness and monotony, and is besides carried on under every possible unwholesome condition. . . . . Even the very youngest children work with a strained attention and a rapidity that is astonishing, hardly ever giving their fingers rest or slowering their motion. If a question be asked them, they never raise their eyes from their work from fear of losing a single moment." The "long stick" is used by the mistresses as a stimulant more and more as the working hours are prolonged. "The children gradually tire and become as restless as birds towards the end of their long detention at an occupation that is monotonous, eye-straining, and exhausting from the uniformity in the posture of the body. Their work is like slavery."[1] When women and their children work at home, which now-a-days means in a hired room, often in a garret, the state of things is, if possible, still worse. This sort of work is given out within a circle of 80 miles radius from Nottingham. On leaving the warehouses at 9 or 10 o'clock at night, the children are often given a bundle of lace to take

[1] Ch. Empl. Comm., II. Rep., 1864, pp. xix., xx., xxi.

home with them and finish. The Pharisee of a capitalist represented by one of his servants, accompanies this action, of course, with the unctuous phrase: "That's for mother," yet he knows well enough that the poor children must sit up and help.[1]

Pillow lace making is chiefly carried on in England in two agricultural districts; one, the Honiton lace district, extending from 20 to 30 miles along the south coast of Devonshire, and including a few places in North Devon; the other comprising a great part of the counties of Buckingham, Bedford, and Northampton, and also the adjoining portions of Oxfordshire and Huntingdonshire. The cottages of the agricultural labourers are the places where the work is usually carried on. Many manufacturers employ upwards of 3000 of these lace makers, who are chiefly children and young persons of the female sex exclusively. The state of things described as incidental to lace finishing is here repeated, save that instead of the "mistresses' houses," we find what are called "lace schools," kept by poor women in their cottages. From their fifth year and often earlier, until their twelfth or fifteenth year, the children work in these schools; during the first year the very young ones work from four to eight hours, and later on, from six in the morning till eight and ten o'clock at night. "The rooms are generally the ordinary living rooms of small cottages, the chimney stopped up to keep out draughts, the inmates kept warm by their own animal heat alone, and this frequently in winter. In other cases, these so-called school-rooms are like small store-rooms without fire-places. . . . . The overcrowding in these dens and the consequent vitiation of the air are often extreme. Added to this is the injurious effect of drains, privies, decomposing substances, and other filth usual in the purlieus of the smaller cottages." With regard to space: "In one lace school 18 girls and a mistress, 35 cubic feet to each person; in another, where the smell was unbearable, 18 persons and 24½ cubic feet per head. In this industry are to be found employed children of 2 and 2½ years."[2]

Where lace-making ends in the counties of Buckingham and Bedford, straw-plaiting begins, and extends over a large part

[1] l. c., pp. xxi., xxvi.

[2] l. c., pp. xxix., xxx.

of Hertfordshire and the westerly and northerly parts of Essex. In 1861, there were 40,043 persons employed in straw-plaiting and straw-hat making; of these 3815 were males of all ages, the rest females, of whom 14,913, including about 7000 children, were under 20 years of age. In the place of the lace-schools we find here the "straw-plait schools." The children commence their instruction in straw-plaiting generally in their 4th, often between their 3rd and 4th year. Education, of course, they get none. The children themselves call the elementary schools, "natural schools," to distinguish them from these blood-sucking institutions, in which they are kept at work simply to get through the task, generally 30 yards daily, prescribed by their half-starved mothers. These same mothers often make them work at home, after school is over, till 10, 11, and 12 o'clock at night. The straw cuts their mouths, with which they constantly moisten it, and their fingers. Dr. Ballard gives it as the general opinion of the whole body of medical officers in London, that 300 cubic feet is the minimum space proper for each person in a bedroom or work-room. But in the straw-plait schools space is more sparingly allotted than in the lace-schools, "$12\frac{2}{3}$, 17, $18\frac{1}{2}$ and below 22 cubic feet for each person." The smaller of these numbers, says one of the commissioners, Mr. White, represents less space than the half of what a child would occupy if packed in a box measuring 3 feet in each direction. Thus do the children enjoy life till the age of 12 or 14. The wretched half-starved parents think of nothing but getting as much as possible out of their children. The latter, as soon as they are grown up, do not care a farthing, and naturally so, for their parents, and leave them. "It is no wonder that ignorance and vice abound in a population so brought up. . . . Their morality is at the lowest ebb, . . . a great number of the women have illegitimate children, and that at such an immature age that even those most conversant with criminal statistics are astounded."[1] And the native land of these model families is the pattern Christian country for Europe; so says at least Count Montalembert, certainly a competent authority on Christianity!

[1] l. c. pp. xl. xli.

Wages in the above industries, miserable as they are (the maximum wages of a child in the straw-plait schools rising in rare cases to 3 shillings), are reduced far below their nominal amount by the prevalence of the truck system everywhere, but especially in the lace districts.[1]

e. Passage of modern Manufacture, and Domestic Industry into Modern Mechanical Industry. The hastening of this revolution by the application of the Factory Acts to those Industries.

The cheapening of labour-power, by sheer abuse of the labour of women and children, by sheer robbery of every normal condition requisite for working and living, and by the sheer brutality of over-work and night-work, meets at last with natural obstacles that cannot be overstepped. So also, when based on these methods, do the cheapening of commodities and capitalist exploitation in general. So soon as this point is at last reached—and it takes many years—the hour has struck for the introduction of machinery, and for the thenceforth rapid conversion of the scattered domestic industries and also of manufactures into factory industries.

An example, on the most colossal scale, of this movement is afforded by the production of wearing apparel. This industry, according to the classification of the Childrens' Employment Commission, comprises straw-hat makers, ladies'-hat makers, cap-makers, tailors, milliners and dressmakers, shirt-makers, corset-makers, glove-makers, shoemakers, besides many minor branches, such as the making of neck-ties, collars, &c. In 1861, the number of females employed in these industries, in England and Wales, amounted to 586,299, of these 115,242 at the least were under 20, and 16,650 under 15 years of age. The number of these workwomen in the United Kingdom in 1861, was 750,334. The number of males employed in England and Wales, in hat-making, shoe-making, glove-making and tailoring was 437,969; of these 14,964 under 15 years, 89,285 between 15 and 20, and 333,117 over 20 years. Many of the

[1] Child. Empl. Comm. I. Rep. 1863, p. 185.

smaller branches are not included in these figures. But take the figures as they stand; we then have for England and Wales alone, according to the census of 1861, a total of 1,024,277 persons, about as many as are absorbed by agriculture and cattle breeding. We begin to understand what becomes of the immense quantities of goods conjured up by the magic of machinery, and of the enormous masses of workpeople, which that machinery sets free.

The production of wearing apparel is carried on partly in manufactories in whose workrooms there is but a reproduction of that division of labour, the membra disjecta of which were found ready to hand; partly by small master-handicraftsmen; these, however, do not, as formerly, work for individual consumers, but for manufactories and warehouses, and to such an extent that often whole towns and stretches of country carry on certain branches, such as shoe-making, as a speciality; finally, on a very great scale by the so-called domestic workers, who form an external department of the manufactories, warehouses, and even of the workshops of the smaller masters.[1]

The raw material, &c., is supplied by mechanical industry, the mass of cheap human material (taillable à merci et miséricorde) is composed of the individuals "liberated" by mechanical industry and improved agriculture. The manufactures of this class owed their origin chiefly to the capitalist's need of having at hand an army ready equipped to meet any increase of demand.[2] These manufactures, nevertheless, allowed the scattered handicrafts and domestic industries to continue to exist as a broad foundation. The great production of surplus-value in these branches of labour, and the progressive cheapening of their articles, were and are chiefly due to the minimum wages paid, no more than requisite for a miserable vegetation, and to the extension of working time up to the maximum endurable by the human organism. It was in fact by the

[1] In England millinery and dressmaking are for the most part carried on, on the premises of the employer, partly by workwomen who live there, partly by women who live off the premises.

[2] Mr. White, a commissioner, visited a military clothing manufactory that employed 1000 to 1200 persons, almost all females, and a shoe manufactory with 1300 persons; of these nearly one half were children and young persons.

cheapness of the human sweat and the human blood, which were converted into commodities, that the markets were constantly being extended, and continue daily to be extended; more especially was this the case with England's colonial markets, where, besides, English tastes and habits prevail. At last the critical point was reached. The basis of the old method, sheer brutality in the exploitation of the workpeople, accompanied more or less by a systematic division of labour, no longer sufficed for the extending markets and for the still more rapidly extending competition of the capitalists. The hour struck for the advent of machinery. The decisively revolutionary machine, the machine which attacks in an equal degree the whole of the numberless branches of this sphere of production, dressmaking, tailoring, shoe-making, sewing, hat-making, and many others, is the sewing-machine.

Its immediate effect on the workpeople is like that of all machinery, which, since the rise of modern industry, has seized upon new branches of trade. Children of too tender an age are sent adrift. The wage of the machine hands rises compared with that of the house-workers, many of whom belong to the poorest of the poor. That of the better situated handicraftsmen, with whom the machine competes, sinks. The new machine hands are exclusively girls and young women. With the help of mechanical force, they destroy the monopoly that male labour had of the heavier work, and they drive off from the lighter work numbers of old women and very young children. The overpowering competition crushes the weakest of the manual labourers. The fearful increase in death from starvation during the last 10 years in London runs parallel with the extension of machine sewing.[1] The new workwomen turn the machines by hand and foot, or by hand alone, sometimes sitting, sometimes standing, according to the weight, size, and special make of the machine, and expend a great deal of labour-power. Their occupation is unwholesome, owing to the long hours, although in most cases they are not so long as under the old

[1] An instance. The weekly report of deaths by the Registrar General dated 26th Feb., 1864, contains 5 cases of death from starvation. On the same day the "Times" reports another case. Six victims of starvation in one week!

system. Wherever the sewing machine locates itself in narrow and already over-crowded workrooms, it adds to the unwholesome influences. "The effect," says Mr. Lord, "on entering low-ceiled workrooms in which 30 to 40 machine hands are working is unbearable. . . . The heat, partly due to the gas stoves used for warming the irons, is horrible. . . . . Even when moderate hours of work, *i.e.*, from 8 in the morning till 6 in the evening, prevail in such places, yet 3 or 4 persons fall into a swoon regularly every day."[1]

The revolution in the industrial methods which is the necessary result of the revolution in the instruments of production, is effected by a medley of transition forms. These forms vary according to the extent to which the sewing machine has become prevalent in one branch of industry or the other, to the time during which it has been in operation, to the previous condition of the workpeople, to the preponderance of manufacture, of handicrafts or of domestic industry, to the rent of the workrooms, &c. In dressmaking, for instance, where the labour for the most part was already organised, chiefly by simple co-operation, the sewing machine at first formed merely a new factor in that manufacturing industry. In tailoring, shirtmaking, shoemaking, &c., all the forms are intermingled. Here the factory system proper. There middlemen receive the raw material from the capitalist *en chef*, and group around their sewing machines, in "chambers" and "garrets," from 10 to 50 or more workwomen. Finally, as is always the case with machinery when not organised into a system, and when it can also be used in dwarfish proportions, handicraftsmen and domestic workers, along with their families, or with a little extra labour from without, make use of their own sewing machines.[3] The system actually prevalent in England is, that

[1] Child. Empl. Comm., Second Rep., 1864, p. lxvii. n. 406-9, p. 84, n. 124, p. lxxiii. n. 441, p. 66, n. 6, p. 84, n. 126, p. 78, n. 85, p. 76, n. 69, p. lxxii. n. 483.

[2] "The rental of premises required for workrooms seems the element which ultimately determines the point; and consequently it is in the metropolis, that the old system of giving work out to small employers and families has been longest retained, and earliest returned to." (l. c. p. 83, n. 123.) The concluding statement in this quotation refers exclusively to shoemaking.

[3] In glove-making and other industries where the condition of the workpeople is hardly distinguishable from that of paupers, this does not occur.

the capitalist concentrates a large number of machines on his premises, and then distributes the produce of those machines for further manipulation amongst the domestic workers.[1] The variety of the transition forms, however, does not conceal the tendency to conversion into the factory system proper. This tendency is nurtured by the very nature of the sewing machine, the manifold uses of which push on the concentration, under one roof, and one management, of previously separated branches of a trade. It is also favoured by the circumstance that preparatory needlework, and certain other operations, are most conveniently done on the premises where the machine is at work ; as well as by the inevitable expropriation of the hand sewers, and of the domestic workers who work with their own machines. This fate has already in part overtaken them. The constantly increasing amount of capital invested in sewing machines,[2] gives the spur to the production of, and gluts the markets with, machine-made articles, thereby giving the signal to the domestic workers for the sale of their machines. The overproduction of sewing machines themselves, causes their producers, in bad want of a sale, to let them out for so much a week, thus crushing by their deadly competition the small owners of machines.[3] Constant changes in the construction of the machines, and their ever-increasing cheapness, depreciate day by day the older makes, and allow of their being sold in great numbers, at absurd prices, to large capitalists, who alone can thus employ them at a profit. Finally, the substitution of the steam-engine for man gives in this, as in all similar revolutions, the finishing blow. At first, the use of steam power meets with mere technical difficulties, such as unsteadiness in the machines, difficulty in controlling their speed, rapid wear and tear of the lighter machines, &c., all of which are soon overcome by experience.[4] If, on the one hand, the concentration of many machines in large manufactories leads to the use of steam

[1] l. c. p. 2, n. 122.

[2] In the wholesale boot and shoe trade of Leicester alone, there were in 1864, 800 sewing machines already in use.

[3] l. c. p. 84, n. 124.

[4] Instances: The Army Clothing Depot at Pimlico, London, the Shirt factory of Tillie and Henderson at Londonderry, and the clothes factory of Messrs. Tait at Limerick which employs about 1200 hands.

power, on the other hand, the competition of steam with human muscles hastens on the concentration of workpeople and machines in large factories. Thus England is at present experiencing, not only in the colossal industry of making wearing apparel, but in most of the other trades mentioned above, the conversion of manufacture, of handicrafts, and of domestic work into the factory system, after each of those forms of production, totally changed and disorganized under the influence of modern industry, has long ago reproduced, and even overdone, all the horrors of the factory system, without participating in any of the elements of social progress it contains.[1]

This industrial revolution which takes place spontaneously, is artificially helped on by the extension of the Factory Acts to all industries in which women, young persons and children are employed. The compulsory regulation of the working day as regards its length, pauses, beginning and end, the system of relays of children, the exclusion of all children under a certain age, &c., necessitate on the one hand more machinery[2] and the substitution of steam as a motive power in the place of muscles.[3] On the other hand, in order to make up for the loss of time, an expansion occurs of the means of production used in common, of the furnaces, buildings, &c.; in one word, greater concentration of the means of production and a correspondingly greater concourse of workpeople. The chief objection, repeatedly and passionately urged on behalf of each

[1] "Tendency to factory system" (l. c. p. lxvii). "The whole employment is at this time in a state of transition, and is undergoing the same change as that effected in the lace trade, weaving, &c." (l. c. n. 405.) "A complete revolution" (l. c. p. xlvi. n. 318). At the date of the Child. Empl. Comm. of 1840, stocking making was still done by manual labour. Since 1845 various sorts of machines have been introduced, which are now driven by steam. The total number of persons of both sexes and of all ages from 3 years upwards, employed in stocking making in England, was in 1862 about 129,000. Of these only 4063 were, according to the Parliamentary Return of the 11th February, 1862, working under the Factory Acts.

[2] Thus, *e.g.*, in the earthenware trade, Messrs. Cochrane, of the Britain Pottery, Glasgow, report: "To keep up our quantity we have gone extensively i to machines wrought by unskilled labour, and every day convinces us that we can produce a greater quantity than by the old method." ("Rep. of Insp. of Fact., 31st Oct., 1865," p. 13.) "The effect of the Fact. Acts is to force on the further introduction of machinery" (l. c., p. 13-14).

[3] Thus, after the extension of the Factory Act to the potteries, great increase of power-jiggers in place of hand-moved jiggers.

manufacture threatened with the Factory Act, is in fact this, that in order to continue the business on the old scale a greater outlay of capital will be necessary. But as regards labour in the so-called domestic industries and the intermediate forms between them and Manufacture, so soon as limits are put to the working day and to the employment of children, those industries go to the wall. Unlimited exploitation of cheap labour-power is the sole foundation of their power to compete.

One of the essential conditions for the existence of the factory system, especially when the length of the working day is fixed, is certainty in the result, *i.e.*, the production in a given time of a given quantity of commodities, or of a given useful effect. The statutory pauses in the working day, moreover, imply the assumption that periodical and sudden cessation of the work does no harm to the article undergoing the process of production. This certainty in the result, and this possibility of interrupting the work are, of course, easier to be attained in the purely mechanical industries than in those in which chemical and physical processes play a part; as, for instance, in the earthenware trade, in bleaching, dyeing, baking, and in most of the metal industries. Wherever there is a working day without restriction as to length, wherever there is night work and unrestricted waste of human life, there the slightest obstacle presented by the nature of the work to a change for the better is soon looked upon as an everlasting barrier erected by Nature. No poison kills vermin with more certainty than the Factory Act removes such everlasting barriers. No one made a greater outcry over "impossibilities" than our friends the earthenware manufacturers. In 1864, however, they were brought under the Act, and within sixteen months every "impossibility" had vanished. "The improved method," called forth by the Act, "of making slip by pressure instead of by evaporation, the newly-constructed stoves for drying the ware in its green state, &c., are each events of great importance in the pottery art, and mark an advance which the preceding century could not rival. . . . . It has even considerably reduced the temperature of the stoves themselves with a consi-

derable saving of fuel, and with a readier effect on the ware."[1] In spite of every prophecy, the cost price of earthenware did not rise, but the quantity produced did, and to such an extent that the export for the twelve months, ending December, 1865, exceeded in value by £138,628 the average of the preceding three years. In the manufacture of matches it was thought to be an indispensable requirement, that boys, even while bolting their dinner, should go on dipping the matches in melted phosphorus, the poisonous vapour from which rose into their faces. The Factory Act (1864) made the saving of time a necessity, and so forced into existence a dipping machine, the vapour from which could not come in contact with the workers.[2] So, at the present time, in those branches of the lace manufacture not yet subject to the Factory Act, it is maintained that the meal times cannot be regular owing to the different periods required by the various kinds of lace for drying, which periods vary from three minutes up to an hour and more. To this the Children's Employment Commissioners answer: "The circumstances of this case are precisely analogous to that of the paper-stainers, dealt with in our first report. Some of the principal manufacturers in the trade urged that in consequence of the nature of the materials used, and their various processes, they would be unable, without serious loss, to stop for meal times at any given moment. But it was seen from the evidence that, by due care and previous arrangement, the apprehended difficulty would be got over; and accordingly, by clause 6 of section 6 of the Factory Acts Extension Act, passed during this Session of Parliament, an interval of eighteen months is given to them from the passing of the Act before they are required to conform to the meal hours, specified by the Factory Acts."[3] Hardly had the Act been passed when our friends the manufacturers found out: "The inconveniences we expected to arise from the introduc-

[1] "Report of Insp. of Fact., 31st Oct., 1865," pp. 96 and 127.

[2] The introduction of this and other machinery into match-making caused in one department alone 230 young persons to be replaced by 32 boys and girls of 14 to 17 years of age. This saving in labour was carried still further in 1865, by the employment of steam-power.

[3] "Ch. Empl. Comm., II. Rep., 1864," p. ix., n. 50.

tion of the Factory Acts into our branch of manufacture, I am happy to say, have not arisen. We do not find the production at all interfered with; in short, we produce more in the same time."[1] It is evident that the English legislature, which certainly no one will venture to reproach with being overdosed with genius, has been led by experience to the conclusion that a simple compulsory law is sufficient to enact away all the so-called impediments, opposed by the nature of the process, to the restriction and regulation of the working day. Hence, on the introduction of the Factory Act into a given industry, a period varying from six to eighteen months is fixed within which it is incumbent on the manufacturers to remove all technical impediments to the working of the Act. Mirabeau's "Impossible! ne me dites jamais ce bête de mot!" is particularly applicable to modern technology. But though the Factory Acts thus artificially ripen the material elements necessary for the conversion of the manufacturing system into the factory system, yet at the same time, owing to the necessity they impose for greater outlay of capital, they hasten on the decline of the small masters, and the concentration of capital.[2]

Besides the purely technical impediments that are removable by technical means, the irregular habits of the workpeople themselves obstruct the regulation of the hours of labour. This is especially the case where piece wage predominates, and where loss of time in one part of the day or week can be made good by subsequent overtime, or by night work, a process which brutalises the adult workman, and ruins his wife and children.[3] Although this absence of regularity in the

[1] "Rep. of Insp. of Fact., 31st Oct., 1865," p. 22.

[2] "But it must be borne in mind that those improvements, though carried out fully in some establishments, are by no means general, and are not capable of being brought into use in many of the old manufactories without an expenditure of capital beyond the means of many of the present occupiers." "I cannot but rejoice," writes Sub-Insp. May, "that notwithstanding the temporary disorganization which inevitably follows the introduction of such a measure (as the Factory Act Extension Act), and is, indeed, directly indicative of the evils which it was intended to remedy, &c." (Rep. of Insp. of Fact., 31st Oct., 1865.)

[3] With blast furnaces, for instance, "work towards the end of the week being generally much increased in duration in consequence of the habit of the men of idling on Monday and occasionally during a part or the whole of Tuesday also."

expenditure of labour-power is a natural and rude reaction against the tedium of monotonous drudgery, it originates, also, to a much greater degree from anarchy in production, anarchy that in its turn pre-supposes unbridled exploitation of labour-power by the capitalist. Besides the general periodic changes of the industrial cycle, and the special fluctuations in the markets to which each industry is subject, we may also reckon what is called "the season," dependent either on the periodicity of favourable seasons of the year for navigation; or on fashion, and the sudden placing of large orders that have to be executed in the shortest possible time. The habit of giving such orders becomes more frequent with the extension of railways and telegraphs. "The extension of the railway system throughout the country has tended very much to encourage giving short notice. Purchasers now come up from Glasgow, Manchester, and Edinburgh once every fortnight or so to the wholesale city warehouses which we supply, and give small orders requiring immediate execution, instead of buying from stock as they used to do. Years ago we were always able to work in the slack times, so as to meet the demand of the next season, but now no one can say beforehand what will be the demand then."[1]

In those factories and manufactories that are not yet subject to the Factory Acts, the most fearful overwork prevails periodically during what is called the season, in consequence of sudden orders. In the outside department of the factory, of the manufactory, and of the warehouse, the so-called domestic workers, whose employment is at the best irregular, are entirely dependent for their raw material and their orders on the caprice of the capitalist, who, in this industry, is not hampered

(Child. Empl. Comm., III. Rep., p. vi.) "The little masters generally have very irregular hours. They lose two or three days, and then work all night to make it up. . . . . They always employ their own children, if they have any." (l. c., p. vii.) "The want of regularity in coming to work, encouraged by the possibility and practice of making up for this by working longer hours." (l. c., p. xviii.) "In Birmingham . . . . an enormous amount of time is lost . . . . idling part of the time, slaving the rest." (l. c., p. xi.)

[1] "Child Empl. Comm., IV. Rep., p. xxxii.," "The extension of the railway system is said to have contributed greatly to this custom of giving sudden orders, and the consequent hurry, neglect of meal times, and late hours of the workpeople." (l. c., p. xxxi.)

by any regard for depreciation of his buildings and machinery, and risks nothing by a stoppage of work, but the skin of the worker himself. Here then he sets himself systematically to work to form an industrial reserve force that shall be ready at a moment's notice; during one part of the year he decimates this force by the most inhuman toil, during the other part, he lets it starve for want of work. "The employers avail themselves of the habitual irregularity in the home-work, when any extra work is wanted at a push, so that the work goes on till 11, and 12 p.m. or 2 a.m., or as the usual phrase is, "all hours," and that in localities where "the stench is enough to knock you down, you go to the door, perhaps, and open it, but shudder to go further."[1] "They are curious men," said one of the witnesses, a shoemaker, speaking of the masters, "they think it does a boy no harm to work too hard for half the year, if he is nearly idle for the other half."[2]

In the same way as technical impediments, so, too, those "usages which have grown with the growth of trade" were and still are proclaimed by interested capitalists as obstacles due to the nature of the work. This was a favourite cry of the cotton lords at the time they were first threatened with the Factory Acts. Although their industry more than any other depends on navigation, yet experience has given them the lie. Since then, every pretended obstruction to business has been treated by the Factory inspectors as a mere sham.[3] The thoroughly conscientious investigations of the Children's Employment Commission prove that the effect of the regulation of the hours of work, in some industries, was to spread the mass of labour previously employed more evenly over the whole year;[4] that this regulation was the first rational bridle

[1] Ch. Empl. Comm. IV. Rep. p. xxxv. n. 235, 237.

[2] Ch. Empl. Comm. IV. Rep. p. 127. n. 56.

[3] "With respect to the loss of trade by non-completion of shipping orders in time, I remember that this was the pet argument of the factory masters in 1832 and 1833. Nothing that can be advanced now on this subject, could have the force that it had then, before steam had halved all distances and established new regulations for transit. It quite failed at that time of proof when put to the test, and again it will certainly fail should it have to be tried." (Reports of Insp. of Fact., 31 Oct., 1862, pp. 54., 55.

[4] Ch. Empl. Comm. IV. Rep. p. xviii. n. 118.

on the murderous, meaningless caprices of fashion,[1] caprices that consort so badly with the system of modern industry; that the development of ocean navigation and of the means of communication generally, has swept away the technical basis on which season-work was really supported,[2] and that all other so-called unconquerable difficulties vanish before larger buildings, additional machinery, increase in the number of work-people employed,[3] and the alterations caused by all these in the mode of conducting the wholesale trade.[4] But for all that, capital never becomes reconciled to such changes—and this is admitted over and over again by its own representatives—except "under the pressure of a General Act of Parliament"[5] for the compulsory regulation of the hours of labour.

SECTION 9.—THE FACTORY ACTS. SANITARY AND EDUCATION CLAUSES OF THE SAME. THEIR GENERAL EXTENSION IN ENGLAND.

Factory legislation, that first conscious and methodical re-

[1] John Bellers remarked as far back as 1699: "The uncertainty of fashions does increase necessitous poor. It has two great mischiefs in it. 1st, The journeymen are miserable in winter for want of work, the mercers and master weavers not daring to lay out their stocks to keep the journeymen employed before the spring comes, and they know what the fashion will then be: 2ndly, In the spring the journeymen are not sufficient, but the master-weavers must draw in many prentices, that they may supply the trade of the kingdom in a quarter or half a year, which robs the plough of hands, drains the country of labourers, and in a great part stocks the city with beggars, and starves some in winter that are ashamed to beg." (Essays about the Poor, Manufactures, &c., p. 9.)

[2] Ch. Empl. Comm. V. Rep. p. 171, n. 34.

[3] The evidence of some Bradford export-houses is as follows: "Under these circumstances, it seems clear that no boys need be worked longer than from 8 a.m. to 7 or 7.30 p.m., in making up. It is merely a question of extra hands and extra outlay. If some masters were not so greedy, the boys would not work late; an extra machine costs only £16 or £18; much of such overtime as does occur is to be referred to an insufficiency of appliances, and a want of space." Ch. Empl. Comm. V. Rep. p. 171, n. 31, 36, 38.

[4] l. c. A London manufacturer, who in other respects looks upon the compulsory regulation of the hours of labour as a protection for the workpeople against the manufacturers, and for the manufacturers themselves against the wholesale trade, states: "The pressure in our business is caused by the shippers, who want, *e.g.*, to send the goods by sailing vessel so as to reach their destination at a given season, and at the same time want to pocket the difference in freight between a sailing vessel and a steamship, or who select the earlier of two steamships in order to be in the foreign market before their competitors."

[5] "This could be obviated," says a manufacturer, "at the expense of an enlargement of the works under the pressure of a General Act of Parliament." l. c. p. x. n. 38.

action of society against the spontaneously developed form of the process of production, is, as we have seen, just as much the necessary product of modern industry as cotton yarn, self-actors, and the electric telegraph. Before passing to the consideration of the extension of that legislation in England, we shall shortly notice certain clauses contained in the Factory Acts, and not relating to the hours of work.

Apart from their wording, which makes it easy for the capitalist to evade them, the sanitary clauses are extremely meagre, and, in fact, limited to provisions for whitewashing the walls, for insuring cleanliness in some other matters, for ventilation, and for protection against dangerous machinery. In the third book we shall return again to the fanatical opposition of the masters to those clauses which imposed upon them a slight expenditure on appliances for protecting the limbs of their workpeople, an opposition that throws a fresh and glaring light on the free trade dogma, according to which, in a society with conflicting interests, each individual necessarily furthers the common weal by seeking nothing but his own personal advantage! One example is enough. The reader knows that during the last 20 years, the flax industry has very much extended, and that, with that extension, the number of scutching mills in Ireland has increased. In 1864 there were in that country 1800 of these mills. Regularly in autumn and winter women and "young persons," the wives, sons, and daughters of the neighbouring small farmers, a class of people totally unaccustomed to machinery, are taken from field labour to feed the rollers of the scutching mills with flax. The accidents, both as regards number and kind, are wholly unexampled in the history of machinery. In one scutching mill, at Kildinan, near Cork, there occurred between 1852 and 1856, six fatal accidents and sixty mutilations; every one of which might have been prevented by the simplest appliances, at the cost of a few shillings. Dr. W. White, the certifying surgeon for factories at Downpatrick, states in his official report, dated the 15th December, 1865: "The serious accidents at the scutching mills are of the most fearful nature. In many cases a quarter of the body is torn from the trunk, and either involves death, or a future of

wretched incapacity and suffering. The increase of mills in the country will, of course, extend these dreadful results, and it will be a great boon if they are brought under the legislature. I am convinced that by proper supervision of scutching mills a vast sacrifice of life and limb would be averted."[1]

What could possibly show better the character of the capitalist mode of production, than the necessity that exists for forcing upon it, by Acts of Parliament, the simplest appliances for maintaining cleanliness and health? In the potteries the Factory Act of 1864 "has whitewashed and cleansed upwards of 200 workshops, after a period of abstinence from any such cleaning, in many cases of 20 years, and in some, entirely," (this is the "abstinence" of the capitalist!) "in which were employed 27,800 artisans, hitherto breathing through protracted days and often nights of labour, a mephitic atmosphere, and which rendered an otherwise comparatively innocuous occupation, pregnant with disease and death. The Act has improved the ventilation very much."[2] At the same time, this portion of the Act strikingly shows that the capitalist mode of production, owing to its very nature, excludes all rational improvement beyond a certain point. It has been stated over and over again that the English doctors are unanimous in declaring that where the work is continuous, 500 cubic feet is the very least space that should be allowed for each person. Now, if the Factory Acts, owing to their compulsory provisions, indirectly hasten on the conversion of small workshops into factories, thus indirectly attacking the proprietary rights of the smaller capitalists, and assuring a monopoly to the great ones, so, if it were made obligatory to provide the proper space for each workman in every workshop, thousands of small employers would, at one full swoop, be expropriated directly! The very root of the capitalist mode of production, *i.e.*, the self-expansion of all capital, large or small, by means of the "free" purchase and consumption of labour-power, would be attacked. Factory legislation is therefore brought to a dead-lock before these 500 cubic feet of breathing space. The sanitary officers,

[1] l. c. p. xv. n. 72. sqq.
[2] Rep. Insp. Fact., 31st October, 1865, p. 127.

the industrial inquiry commissioners, the factory inspectors, all harp, over and over again, upon the necessity for those 500 cubic feet, and upon the impossibility of wringing them out of capital. They thus, in fact, declare that consumption and other lung diseases among the workpeople are necessary conditions to the existence of capital.[1]

Paltry as the education clauses of the Act appear on the whole, yet they proclaim elementary education to be an indispensable condition to the employment of children.[2] The success of those clauses proved for the first time the possibility of combining education and gymnastics[3] with manual labour, and, consequently, of combining manual labour with education and gymnastics. The factory inspectors soon found out by questioning the schoolmasters, that the factory children, although receiving only one half the education of the regular day scholars, yet learnt quite as much and often more. "This can be accounted for by the simple fact that, with only being at school for one half of the day, they are always fresh, and nearly always ready and willing to receive instruction. The system on which they work, half manual labour, and half school, renders each employment a rest and a relief to the other; consequently, both are far more congenial to the child,

[1] It has been found out by experiment, that with each respiration of average intensity made by a healthy average individual, about 25 cubic inches of air are consumed, and that about 20 respirations are made in each minute. Hence the air inhaled in 24 hours by each individual is about 720,000 cubic inches, or 416 cubic feet. It is clear, however, that air which has been once breathed, can no longer serve for the same process until it has been purified in the great workshop of Nature. According to the experiments of Valentin and Brunner, it appears that a healthy man gives off about 1300 cubic inches of carbonic acid per hour; this would give about 8 ounces of solid carbon thrown off from the lungs in 24 hours. "Every man should have at least 800 cubic feet." (Huxley.)

[2] According to the English Factory Act, parents cannot send their children under 14 years of age into Factories under the control of the Act, unless at the same time they allow them to receive elementary education. The manufacturer is responsible for compliance with the Act. "Factory education is compulsory, and it is a condition of labour." (Rep. Insp. Fact. 31st Oct., 1863, p. 111.

[3] On the very advantageous results of combining gymnastics (and drilling in the case of boys) with compulsory education for factory children and pauper scholars, see the speech of N. W. Senior at the seventh annual congress of "The National Association for the Promotion of Social Science," in "Report of Proceedings, &c., Lond. 1863," p. 63, 64, also the Rep. Insp. Fact., 31st Oct., 1865, p. 118, 119, 120, 126 sqq.

than would be the case were he kept constantly at one. It is quite clear that a boy who has been at school all the morning, cannot (in hot weather particularly) cope with one who comes fresh and bright from his work."[1] Further information on this point will be found in Senior's speech at the Social Science Congress at Edinburgh in 1863. He there shows, amongst other things, how the monotonous and uselessly long school hours of the children of the upper and middle classes, uselessly add to the labour of the teacher, "while he not only fruitlessly but absolutely injuriously, wastes the time, health, and energy of the children."[2] From the Factory system budded, as Robert Owen has shown us in detail, the germ of the education of the future, an education that will, in the case of every child over a given age, combine productive labour with instruction and gymnastics, not only as one of the methods of adding to the efficiency of production, but as the only method of producing fully developed human beings.

Modern Industry, as we have seen, sweeps away by technical means the manufacturing division of labour, under which each man is bound hand and foot for life to a single detail-operation. At the same time, the capitalistic form of that industry reproduces this same division of labour in a still more monstrous shape; in the factory proper, by converting the workman into a living appendage of the machine; and every-

[1] Rep. Insp. Fact. 31st Oct. 1865, p. 118. A silk manufacturer naïvely states to the Childrens' Employment Commissioners: "I am quite sure that the true secret of producing efficient workpeople is to be found in uniting education and labour from a period of childhood. Of course the occupation must not be too severe, nor irksome, or unhealthy. But of the advantage of the union I have no doubt. I wish my own children could have some work as well as play to give variety to their schooling." (Ch. Empl. Comm. V. Rep. p. 82. n. 36.)

[2] Senior, l. c. p. 66. How Modern Industry, when it has attained to a certain pitch, is capable, by the revolution it effects in the mode of production and in the social conditions of production, of also revolutionizing people's minds, is strikingly shown by a comparison of Senior's speech in 1863, with his philippic against the Factory Act of 1833; or by a comparison, of the views of the congress above referred to, with the fact that in certain country districts of England poor parents are forbidden, on pain of death by starvation, to educate their children. Thus, *e.g.*, Mr. Snell reports it to be a common occurrence in Somersetshire that, when a poor person claims parish relief, he is compelled to take his children from school. Mr. Wollarton, the clergyman at Feltham, also tells of cases where all relief was denied to certain families "because they were sending their children to school!"

where outside the Factory, partly by the sporadic use of machinery and machine workers,[1] partly by re-establishing the division of labour on a fresh basis by the general introduction of the labour of women and children, and of cheap unskilled labour.

The antagonism between the manufacturing division of labour and the methods of Modern Industry makes itself forcibly felt. It manifests itself, amongst other ways, in the frightful fact that a great part of the children employed in modern factories and manufactures, are from their earliest years riveted to the most simple manipulations, and exploited for years, without being taught a single sort of work that would afterwards make them of use, even in the same manufactory or factory. In the English letter press printing trade, for example, there existed formerly a system, corresponding to that in the old manufactures and handicrafts, of advancing the apprentices from easy to more and more difficult work. They went through a course of teaching till they were finished printers. To be able to read and write was for every one of them a requirement of their trade. All this was changed by the printing machine. It employs two sorts of labourers, one grown up, tenters, the other, boys mostly from 11 to 17 years of age whose sole business is either to spread the sheets of paper under the machine, or to take from it the printed sheets. They perform this weary task, in London especially, for 14, 15, and 16 hours at a stretch, during several days in the week, and frequently for 36 hours, with only 2 hours' rest for meals and sleep![2] A great part of them cannot read, and they are, as a

[1] Wherever handicraft-machines, driven by men, compete directly or indirectly with more developed machines driven by mechanical power, a great change takes place with regard to the labourer who drives the machine. At first the steam-engine replaces this labourer, afterwards he must replace the steam-engine. Consequently the tension and the amount of labour-power expended become monstrous, and especially so in the case of the children who are condemned to this torture. Thus Mr Longe, one of the commissioners, found in Coventry and the neighbourhood boys of from 10 to 15 years employed in driving the ribbon looms, not to mention younger children who had to drive smaller machines. "It is extraordinarily fatiguing work. The boy is a mere substitute for steam-power." (Ch. Empl. Comm. V. Rep. 1866, p. 114, n. 6.) As to the fatal consequences of "this system of slavery," as the official report styles it, see l. c. p. 114 sqq.

[2] l. c. p. 3, n. 24.

rule, utter savages and very extraordinary creatures. "To qualify them for the work which they have to do, they require no intellectual training; there is little room in it for skill, and less for judgment; their wages, though rather high for boys, do not increase proportionately as they grow up, and the majority of them cannot look for advancement to the better paid and more responsible post of machine minder, because while each machine has but one minder, it has at least two, and often four boys attached to it."[1] As soon as they get too old for such child's work, that is about 17 at the latest, they are discharged from the printing establishments. They become recruits of crime. Several attempts to procure them employment elsewhere, were rendered of no avail by their ignorance and brutality, and by their mental and bodily degradation.

As with the division of labour in the interior of the manufacturing workshops, so it is with the division of labour in the interior of society. So long as handicraft and manufacture form the general groundwork of social production, the subjection of the producer to one branch exclusively, the breaking up of the multifariousness of his employment,[2] is a necessary step in the development. On that ground-work each separate branch of production acquires empirically the form that is technically suited to it, slowly perfects it, and, so soon as a given degree of maturity has been reached, rapidly crystallizes that form. The only thing, that here and there causes a change, besides new raw material supplied by commerce, is the gradual alteration of the instruments of labour. But their form, too, once definitely settled by experience, petrifies, as is proved by their being in many cases handed down in the same form by one generation to

[1] l. c. p. 7., n. 60.

[2] "In some parts of the Highlands of Scotland, not many years ago, every peasant, according to the Statistical Account, made his own shoes of leather tanned by himself. Many a shepherd and cottar too, with his wife and children, appeared at Church in clothes which had been touched by no hands but their own, since they were shorn from the sheep and sown in the flaxfield. In the preparation of these, it is added, scarcely a single article had been purchased, except the awl, needle, thimble, and a very few parts of the iron-work employed in the weaving. The dyes, too, were chiefly extracted by the women from trees, shrubs and herbs." (Dugald Stewart's Works. Hamilton's Ed., Vol. viii. p. 327-328.)

another during thousands of years. A characteristic feature is, that, even down into the eighteenth century, the different trades were called "mysteries" (mystères)[1]; into their secrets none but those duly initiated could penetrate. Modern Industry rent the veil that concealed from men their own social process of production, and that turned the various, spontaneously divided branches of production into so many riddles, not only to outsiders, but even to the initiated. The principle which it pursued, of resolving each process into its constituent movements, without any regard to their possible execution by the hand of man, created the new modern science of technology. The varied, apparently unconnected, and petrified forms of the industrial processes now resolved themselves into so many conscious and systematic applications of natural science to the attainment of given useful effects. Technology also discovered the few main fundamental forms of motion, which, despite the diversity of the instruments used, are necessarily taken by every productive action of the human body; just as the science of mechanics sees in the most complicated machinery nothing but the continual repetition of the simple mechanical powers.

Modern Industry never looks upon and treats the existing form of a process as final. The technical basis of that industry is therefore revolutionary, while all earlier modes of production were essentially conservative.[2] By means of machinery,

[1] In the celebrated "Livre des métiers" of Etienne Boileau, we find it prescribed that a journeyman on being admitted among the masters had to swear "to love his brethren with brotherly love, to support them in their respective trades, not wilfully to betray the secrets of the trade, and besides, in the interests of all, not to recommend his own wares by calling the attention of the buyer to defects in the articles made by others."

[2] "The bourgeoisie cannot exist without continually revolutionizing the instruments of production, and thereby the relations of production and all the social relations. Conservation, in an unaltered form, of the old modes of production was on the contrary the first condition of existence for all earlier industrial classes. Constant revolution in production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation, distinguish the bourgeois epoch from all earlier ones. All fixed, fast-frozen relations, with their train of ancient and venerable prejudices and opinions, are swept away, all new formed ones become antiquated before they can ossify. All that is solid melts into air, all that is holy is profaned, and man is at last compelled to face with sober senses his real conditions of life, and his relations with his kind. (F. Engels and Karl Marx: Manifest der Kommunistischen Partei. Lond. 1848, p. 5.)

chemical processes and other methods, it is continually causing changes not only in the technical basis of production, but also in the functions of the labourer, and in the social combinations of the labour-process. At the same time, it thereby also revolutionizes the division of labour within the society, and incessantly launches masses of capital and of workpeople from one branch of production to another. But if Modern Industry, by its very nature, therefore necessitates variation of labour, fluency of function, universal mobility of the labourer, on the other hand, in its capitalistic form, it reproduces the old division of labour with its ossified particularisations. We have seen how this absolute contradiction between the technical necessities of Modern Industry, and the social character inherent in its capitalistic form, dispels all fixity and security in the situation of the labourer; how it constantly threatens, by taking away the instruments of labour, to snatch from his hands his means of subsistence,[1] and, by suppressing his detail-function, to make him superfluous. We have seen, too, how this antagonism vents its rage in the creation of that monstrosity, an industrial reserve army, kept in misery in order to be always at the disposal of capital; in the incessant human sacrifices from among the working class, in the most reckless squandering of labour-power, and in the devastation caused by a social anarchy which turns every economical progress into a social calamity. This is the negative side. But if, on the one hand, variation of work at present imposes itself after the manner of an overpowering natural law, and with the blindly destructive action of a natural law that meets with resistance[2] at all points, Modern Industry, on the other hand,

[1] "You take my life
When you do take the means whereby I live." SHAKESPEARE.

[2] A French workman, on his return from San-Francisco, writes as follows: "I never could have believed, that I was capable of working at the various occupations I was employed on in California. I was firmly convinced that I was fit for nothing but letter-press printing. . . . Once in the midst of this world of adventurers, who change their occupation as often as they do their shirt, egad, I did as the others. As mining did not turn out remunerative enough, I left it for the town, where in succession I became typographer, slater, plumber, &c. In consequence of thus finding out that I am fit for any sort of wo k, I feel less of a mollusk and more of a man." (A. Courbon. De l'enseignement professionnel, 2ème ed. p. 50.)

through its catastrophes imposes the necessity of recognising, as a fundamental law of production, variation of work, consequently fitness of the labourer for varied work, consequently the greatest possible development of his varied aptitudes. It becomes a question of life and death for society to adapt the mode of production to the normal functioning of this law. Modern Industry, indeed, compels society, under penalty of death, to replace the detail-worker of to-day, crippled by life-long repetition of one and the same trivial operation, and thus reduced to the mere fragment of a man, by the fully developed individual, fit for a variety of labours, ready to face any change of production, and to whom the different social functions he performs, are but so many modes of giving free scope to his own natural and acquired powers.

One step already spontaneously taken towards effecting this revolution is the establishment of technical and agricultural schools, and of "écoles d'enseignement professionnel," in which the children of the working-men receive some little instruction in technology and in the practical handling of the various implements of labour. Though the Factory Act, that first and meagre concession wrung from capital, is limited to combining elementary education with work in the factory, there can be no doubt that when the working class comes into power, as inevitably it must, technical instruction, both theoretical and practical, will take its proper place in the working-class schools. There is also no doubt that such revolutionary ferments, the final result of which is the abolition of the old division of labour, are diametrically opposed to the capitalistic form of production, and to the economic status of the labourer corresponding to that form. But the historical development of the antagonisms, immanent in a given form of production, is the only way in which that form of production can be dissolved and a new form established. "Ne sutor ultra crepidam"—this nec plus ultra of handicraft wisdom became sheer nonsense, from the moment the watchmaker Watt invented the steam-engine, the barber Arkwright, the throstle, and the working-jeweller, Fulton, the steamship.[1]

[1] John Bellers, a very phenomenon in the history of political economy, saw most

So long as Factory legislation is confined to regulating the labour in factories, manufactories, &c., it is regarded as a mere interference with the exploiting rights of capital. But when it comes to regulating the so-called "home-labour," [1] it is immediately viewed as a direct attack on the patria potestas, on parental authority. The tender-hearted English Parliament long affected to shrink from taking this step. The force of facts, however, compelled it at last to acknowledge that modern industry, in overturning the economical foundation on which was based the traditional family, and the family labour corresponding to it, had also unloosened all traditional family ties. The rights of the children had to be proclaimed. The final report of the Ch. Empl. Comm. of 1866, states: "It is unhappily, to a painful degree, apparent throughout the whole of the evidence, that against no persons do the children of both sexes so much require protection as against their parents." The system of unlimited exploitation of childrens' labour in general, and the so-called home-labour in particular is "maintained only because the parents are able, without check or control, to exercise this arbitrary and mischievous power over their young and tender offspring. . . . . Parents must not possess the absolute power of making their children mere 'machines to earn so much weekly wage.' . . . . The children and young persons, therefore, in all such cases may justifiably claim from the legislature, as a natural right, that an exemption should be secured to them, from what destroys prematurely their physical strength, and lowers them in the scale of in-

clearly at the end of the 17th century, the necessity for abolishing the present system of education and division of labour, which beget hypertrophy and atrophy at the two opposite extremities of society. Amongst other things he says this: "An idle learning being little better than the learning of idleness . . . Bodily labour, it's a primitive institution of God . . . Labour being as proper for the bodies' health as eating is for its living; for what pains a man saves by ease, he will find in disease. . . . . Labour adds oyl to the lamp of life, when thinking inflames it . . . . A childish silly employ" (a warning this, by presentiment, against the Basedows and their modern imitators) "leaves the children's minds silly." (Proposals for raising a colledge of industry of all useful trades and husbandry. Lond., 1696, p. 12, 14, 18.)

[1] This sort of labour goes on mostly in small workshops, as we have seen in the lace-making and straw-plaiting trades, and as could be shown more in detail from the metal trades of Sheffield, Birmingham, &c.

tellectual and moral beings."[1] It was not, however, the misuse of parental authority that created the capitalistic exploitation, whether direct or indirect, of children's labour; but, on the contrary, it was the capitalistic mode of exploitation which, by sweeping away the economical basis of parental authority, made its exercise degenerate into a mischievous misuse of power. However terrible and disgusting the dissolution, under the capitalist system, of the old family ties may appear, nevertheless, modern industry, by assigning as it does an important part in the process of production, outside the domestic sphere, to women, to young persons, and to children of both sexes, creates a new economical foundation for a higher form of the family and of the relations between the sexes. It is, of course, just as absurd to hold the Teutonic-christian form of the family to be absolute and final as it would be to apply that character to the ancient Roman, the ancient Greek, or the Eastern forms which, moreover, taken together form a series in historic development. Moreover, it is obvious that the fact of the collective working group being composed of individuals of both sexes and all ages, must necessarily, under suitable conditions, become a source of humane development; although in its spontaneously developed, brutal, capitalistic form, where the labourer exists for the process of production, and not the process of production for the labourer, that fact is a pestiferous source of corruption and slavery.[2]

The necessity for a generalization of the Factory Acts, for transforming them from an exceptional law relating to mechanical spinning and weaving—those first creations of machinery—into a law affecting social production as a whole, arose, as we have seen, from the mode in which Modern Industry was historically developed. In the rear of that industry, the traditional form of manufacture, of handicraft, and of domestic industry, is entirely revolutionised; manufactures are constantly passing into the factory system, and handicrafts into manufactures; and lastly, the spheres of handi-

[1] Ch. Empl. Comm., V. Rep., p. xxv., n. 162, and II. Rep., p. xxxviii., n. 285, 289, p. xxv., xxvi., n. 191.

[2] "Factory labour may be as pure and as excellent as domestic labour, and perhaps more so." (Rep. Insp. Fact., 31st October, 1865, p. 127.)

craft and of the domestic industries become, in a, comparatively speaking, wonderfully short time, dens of misery in which capitalistic exploitation obtains free play for the wildest excesses. There are two circumstances that finally turn the scale: first, the constantly recurring experience that capital, so soon as it finds itself subject to legal control at one point, compensates itself all the more recklessly at other points;[1] secondly, the cry of the capitalists for equality in the conditions of competition, *i.e.*, for equal restraint on all exploitation of labour.[2] On this point let us listen to two heart-broken cries. Messrs. Cooksley of Bristol, nail and chain, &c., manufacturers, spontaneously introduced the regulations of the Factory Act into their business. "As the old irregular system prevails in neighbouring works, the Messrs. Cooksley are subject to the disadvantage of having their boys enticed to continue their labour elsewhere after 6 p.m. 'This,' they naturally say, 'is an unjustice and loss to us, as it exhausts a portion of the boy's strength, of which we ought to have the full benefit.'"[3] Mr. J. Simpson (paper box and bagmaker, London) states before the commissioners of the Ch. Empl. Comm.: "He would sign any petition for it" (legislative interference) . . . . "As it was, he always felt restless at night, when he had closed his place, lest others should be working later than him and getting away his orders."[4] Summarising, the Ch. Empl. Comm. says: "It would be unjust to the larger employers that their factories should be placed under regulation, while the hours of labour in the smaller places in their own branch of business were under no legislative restriction. And to the injustice arising from the unfair conditions of competition, in regard to hours, that would be created if the smaller places of work were exempt, would be added the disadvantage to the larger manufacturers, of finding their supply of juvenile and female labour drawn off to the places of work exempt from legislation. Further, a stimulus would be given to the multiplication of the smaller places of work, which are almost invariably the least

[1] Rep. Insp. of Fact., 31st October, 1865, p. 27-32.
[2] Numerous instances will be found in Rep. of Insp. of Fact.
[3] Ch. Empl. Comm., V. Rep., p. x., n. 35.
[4] Ch. Empl. Comm., V. Rep., p. ix., n. 28.

favourable to the health, comfort, education, and general improvement of the people."[1]

In its final report the Commission proposes to subject to the Factory Act more than 1,400,000 children, young persons, and women, of which number about one half are exploited in small industries and by the so-called home-work.[2] It says, "But if it should seem fit to Parliament to place the whole of that large number of children, young persons and females under the protective legislation above adverted to . . . . it cannot be doubted that such legislation would have a most beneficent effect, not only upon the young and the feeble, who are its more immediate objects, but upon the still larger body of adult workers, who would in all these employments, both directly and indirectly, come immediately under its influence. It would enforce upon them regular and moderate hours; it would lead to their places of work being kept in a healthy and cleanly state; it would therefore husband and improve that store of physical strength on which their own well-being and that of the country so much depends; it would save the rising generation from that over-exertion at an early age which undermines their constitutions and leads to premature decay; finally, it would ensure them—at least up to the age of 13—the opportunity of receiving the elements of education, and would put an end to that utter ignorance . . . so faithfully exhibited in the Reports of our Assistant Commissoners, and which cannot be regarded without the deepest pain, and a profound sense of national degradation."[3]

[1] l. c., p. xxv., n. 165-167. As to the advantages of large scale, compared with small scale, industries, see Ch. Empl. Comm., III. Rep., p. 13, n. 144, p. 25, n. 121, p. 26, n. 125, p. 27, n. 140, &c.

[2] The trades proposed to be brought under the Act were the following: Lace-making, stocking-weaving, straw-plaiting, the manufacture of wearing apparel with its numerous subdivisions, artificial flower-making, shoemaking, hat-making, glove-making, tailoring, all metal works, from blast furnaces down to needleworks, &c., paper-mills, glass-works, tobacco factories, india-rubber works, braid-making (for weaving), hand-carpet-making, umbrella and parasol making, the manufacture of spindles and spools, letter-press printing, book-binding, manufacture of stationery (including paper bags, cards, coloured paper, &c.,) rope-making, manufacture of jet ornaments, brick-making, silk manufacture by hand, Coventry weaving, salt works, tallow chandlers, cement works, sugar refineries, biscuit-making, various industries connected with timber, and other mixed trades.

[3] l. c. p xxv. n. 169.

Twenty-four years before, another Commission of Inquiry on the labour of children had already, as Senior remarks, disclosed "the most frightful picture of avarice, selfishness and cruelty on the part of masters and of parents, and of juvenile and infantile misery, degradation and destruction ever presented. . . . It may be supposed that it describes the horrors of a past age. But there is unhappily evidence that those horrors continue as intense as they were. A pamphlet published by Hardwicke about 2 years ago states that the abuses complained of in 1842, are in full bloom at the present day. It is a strange proof of the general neglect of the morals and health of the children of the working class, that this report lay unnoticed for 20 years, during which the children, 'bred up without the remotest sign of comprehension as to what is meant by the term morals, who had neither knowledge, nor religion, nor natural affection,' were allowed to become the parents of the present generation."[1]

The social conditions having undergone a change, Parliament could not venture to shelve the demands of the Commission of 1862, as it had done those of the Commission of 1840. Hence in 1864, when the Commission had not yet published more than a part of its reports, the earthenware industries (including the potteries), makers of paper-hangings, matches, cartridges, and caps, and fustian cutters were made subject to the Acts in force in the textile industries. In the speech from the Throne, on 5th February, 1867, the Tory Cabinet of the day announced the introduction of Bills, founded on the final recommendations of the Commission, which had completed its labours in 1866.

On the 15th August, 1867, the Factory Acts Extension Act, and on the 21st August, the Workshops' Regulation Act received the Royal Assent; the former Act having reference to large industries, the latter to small.

The former applies to blast-furnaces, iron and copper mills, foundries, machine shops, metal manufactories, gutta-percha works, paper mills, glass works, tobacco manufactories, letter-press printing (including newspapers) book-binding, in short

[1] Senior Social Science Congress, pp. 55-58

to all industrial establishments of the above kind, in which 50 individuals or more are occupied simultaneously, and for not less than 100 days during the year.

To give an idea of the extent of the sphere embraced by the Workshops' Regulation Act in its application, we cite from its interpretation clause, the following passages:

"*Handicraft* shall mean any manual labour exercised by way of trade, or for purposes of gain in, or incidental to, the making any article or part of an article, or in, or incidental to, the altering, repairing, ornamenting, finishing, or otherwise adapting for sale any article."

"*Workshop* shall mean any room or place whatever in the open air or under cover, in which any handicraft is carried on by any child, young person, or woman, and to which and over which the person by whom such child, young person, or woman is employed, has the right of access and control."

"*Employed* shall mean occupied in any handicraft, whether for wages or not, under a master or under a parent as herein defined."

"*Parent* shall mean parent, guardian, or person, having the custody of, or control over, any . . . child or young person."

Clause 7, which imposes a penalty for employment of children, young persons, and women, contrary to the provisions of the Act, subjects to fines, not only the occupier of the workshop, whether parent or not, but even "the parent of, or the person deriving any direct benefit from the labour of, or having the control over, the child, young person or woman."

The Factory Acts Extension Act, which affects the large establishments, derogates from the Factory Act by a crowd of vicious exceptions and cowardly compromises with the masters.

The Workshops' Regulation Act, wretched in all its details, remained a dead letter in the hands of the municipal and local authorities who were charged with its execution. When, in 1871, Parliament withdrew from them this power, in order to confer it on the Factory Inspectors, to whose province it thus added by a single stroke more than one hundred thousand workshops, and three hundred brickworks, care was taken at

the same time not to add more than eight assistants to their already undermanned staff.[1]

What strikes us, then, in the English legislation of 1867, is, on the one hand, the necessity imposed on the parliament of the ruling classes, of adopting in principle measures so extraordinary, and on so great a scale, against the excesses of capitalistic exploitation; and on the other hand, the hesitation, the repugnance, and the bad faith, with which it lent itself to the task of carrying those measures into practice.

The Inquiry Commission of 1862 also proposed a new regulation of the mining industry, an industry distinguished from others by the exceptional characteristic that the interests of landlord and capitalist there join hands. The antagonism of these two interests had been favourable to Factory legislation, while on the other hand the absence of that antagonism is sufficient to explain the delays and chicanery of the legislation on mines.

The Inquiry Commission of 1840 had made revelations so terrible, so shocking, and creating such a scandal all over Europe, that to salve its conscience Parliament passed the Mining Act of 1842, in which it limited itself to forbidding the employment underground in mines of children under 10 years of age and females.

Then another Act, The Mines' Inspecting Act of 1860, provides that mines shall be inspected by public officers nominated specially for that purpose, and that boys between the ages of 10 and 12 years shall not be employed, unless they have a school certificate, or go to school for a certain number of hours. This Act was a complete dead letter owing to the ridiculously small number of inspectors, the meagreness of their powers, and other causes that will become apparent as we proceed.

One of the most recent blue books on mines is the "Report from the Select Committee on Mines, together with &c.

[1] The "personnel" of this staff consisted of 2 inspectors, 2 assistant inspectors and 41 sub-inspectors. Eight additional sub-inspectors were appointed in 1871. The total cost of administering the Acts in England, Scotland, and Ireland amounted for the year 1871-72 to no more than £25,347, inclusive of the law expenses incurred by prosecutions of offending masters.

Evidence, 23rd July, 1866." This Report is the work of a Parliamentary Committee selected from members of the House of Commons, and authorised to summon and examine witnesses. It is a thick folio volume in which the Report itself occupies only five lines to this effect; that the committee has nothing to say, and that more witnesses must be examined!

The mode of examining the witnesses reminds one of the cross-examination of witnesses in English courts of justice, where the advocate tries, by means of impudent, unexpected, equivocal and involved questions, put without connexion, to intimidate, surprise, and confound the witness, and to give a forced meaning to the answers extorted from him. In this inquiry the members of the committee themselves are the cross-examiners, and among them are to be found both mine owners and mine exploiters; the witnesses are mostly working coalminers. The whole farce is too characteristic of the spirit of capital, not to call for a few extracts from this Report. For the sake of conciseness I have classified them. I may also add that every question and its answer are numbered in the English Blue Books.

I. EMPLOYMENT IN MINES OF BOYS OF 10 YEARS AND UPWARDS. In the mines the work, inclusive of going and returning, usually lasts 14 or 15 hours, sometimes even from 3, 4, and 5 o'clock a.m., till 5 and 6 o'clock p.m., (n. 6., 452, 83). The adults work in two shifts, of eight hours each; but there is no alteration with the boys, on account of the expense (n. 80, 203, 204). The younger boys are chiefly employed in opening and shutting the ventilating doors in the various parts of the mine; the older ones are employed on heavier work, in carrying coal, &c. (n. 122, 739, 1747). They work these long hours underground until their 18th or 22nd year, when they are put to miner's work proper. (n. 161.) Children and young persons are at present worse treated, and harder worked than at any previous period (n. 1663—1667). And now Hussey Vivian (himself an exploiter of mines) asks: "Would not the opinion of the workman depend upon the poverty of the workman's family?" Mr. Bruce: "Do you not think it would be a very hard case, where a parent had been injured, or where

he was sickly, or where a father was dead, and there was only a mother, to prevent a child between 12 and 14 earning 1s. 7d. a day for the good of the family? . . . You must lay down a general rule? . . . Are you prepared to recommend legislation which would prevent the employment of children under 12 and 14, whatever the state of their parents might be?" "Yes." (ns. 107-110). Vivian: "Supposing that an enactment were passed preventing the employment of children under the age of 14, would it not be probable that . . . the parents of children would seek employment for their children in other directions, for instance, in manufacture?" "Not generally I think," (n. 174). Kinnaird: "Some of the boys are keepers of doors?" "Yes." "Is there not generally a very great draught every time you open a door or close it?" "Yes, generally there is." "It sounds a very easy thing, but it is in fact rather a painful one?" "He is imprisoned there just the same as if he was in a cell of a gaol." Bourgeois Vivian: "Whenever a boy is furnished with a lamp cannot he read?" "Yes, he can read, if he finds himself in candles . . . I suppose he would be found fault with if he were discovered reading; he is there to mind his business, he has a duty to perform, and he has to attend to it in the first place, and I do not think it would be allowed down the pit." (ns. 139, 141, 143, 158, 160.)

II. EDUCATION.—The working miners want a law for the compulsory education of their children, as in factories. They declare the clauses of the Act of 1860, which require a school certificate to be obtained before employing boys of 10 and 12 years of age, to be quite illusory. The examination of the witnesses on this subject is truly droll. "Is it (the Act) required more against the masters or against the parents?" 'It is required against both I think." "You cannot say whether it is required against one more than against the other?" "No; I can hardly answer that question." (ns. 115, 116.) "Does there appear to be any desire on the part of the employers that the boys should have such hours as to enable them to go to school?" "No; the hours are never shortened for that purpose." (n. 137.) Mr. Kinnaird: "Should you say

that the colliers generally improve their education; have you any instances of men who have, since they began to work, greatly improved their education, or do they not rather go back, and lose any advantage that they may have gained?" "They generally become worse: they do not improve; they acquire bad habits; they get on to drinking and gambling and such like, and they go completely to wreck," (n. 211). "Do they make any attempt of the kind (for providing instruction) by having schools at night?" "There are few collieries where night schools are held, and perhaps at those collieries a few boys do go to those schools; but they are so physically exhausted that it is to no purpose that they go there." (n. 454.) "You are then," concludes the bourgeois, "against education?" "Most certainly not; but," &c. (n. 443.) "But are they (the employers) not compelled to demand them" (school certificates)? "By law they are; but I am not aware that they are demanded by the employers." "Then it is your opinion, that this provision of the Act as to requiring certificates, is not generally carried out in the collieries?" "It is not carried out." (ns. 443, 444.) "Do the men take a great interest in this question" (of education)? "The majority of them do." (n. 717.) "Are they very anxious to see the law enforced?" "The majority are." (n. 718.) "Do you think that in this country any law that you pass. . . . can really be effectual unless the population themselves assist in putting it into operation?" "Many a man might wish to object to employing a boy, but he would perhaps become marked by it." (n. 720.) "Marked by whom?" "By his employers." (n. 721.) "Do you think that the employers would find any fault with a man who obeyed the law. . . ?" "I believe they would." (n. 722.) "Have you ever heard of any workman objecting to employ a boy between 10 and 12, who could not write or read?" "It is not left to men's option." (n. 123.) "Would you call for the interference of Parliament?" "I think that if anything effectual is to be done in the education of the colliers' children, it will have to be made compulsory by Act of Parliament." (n. 1634.) "Would you lay that obligation upon the colliers only, of all the work people of

Great Britain?" "I came to speak for the colliers." (n. 1636.) "Why should you distinguish them (colliery boys) from other boys?" "Because I think they are an exception to the rule." (n. 1638.) "In what respect?" "In a physical respect." (n. 1639.) "Why should education be more valuable to them than to other classes of lads?" "I do not know that it is more valuable; but through the over-exertion in mines there is less chance for the boys that are employed there to get education, either at Sunday schools, or at day schools." (n. 1640.) "It is impossible to look at a question of this sort absolutely by itself?" (n. 1644.) "Is there a sufficiency of schools?"—"No" . . . (n. 1646). "If the state were to require that every child should be sent to school, would there be schools for the children to go to?" "No; but I think if the circumstances were to spring up, the schools would be forthcoming." (n. 1647.) "Some of them (the boys) cannot read and write at all, I suppose?" "The majority cannot. . . . The majority of the men themselves cannot." (ns. 705, 725).

III. EMPLOYMENT OF WOMEN.—Since 1842 women are no more employed underground, but are occupied on the surface in loading the coal, &c., in drawing the tubs to the canals and railway waggons, in sorting, &c. Their numbers have considerably increased during the last three or four years. (n. 1727.) They are mostly the wives, daughters, and widows of the working miners, and their ages range from 12 to 50 or 60 years. (ns. 645, 1779.) "What is the feeling among the working miners as to the employment of women?" "I think they generally condemn it." (n. 648.) "What objection do you see to it?" "I think it is degrading to the sex." (n. 649.) "There is a peculiarity of dress?" "Yes . . . it is rather a man's dress, and I believe in some cases, it drowns all sense of decency." "Do the women smoke?" "Some do." "And I suppose it is very dirty work?" "Very dirty." "They get black and grimy?" "As black as those who are down the mines . . . I believe that a woman having children (and there are plenty on the banks that have) cannot do her duty to her children." (ns. 650-654, 701.) "Do you think that those widows could get employment anywhere else, which

would bring them in as much wages as that (from 8s. to 10s. a week)?" "I cannot speak to that." (n. 709.) "You would still be prepared, would you," (flint-hearted fellow!) "to prevent their obtaining a livelihood by these means?" "I would." (n. 710.) "What is the general feeling in the district . . . as to the employment of women?" "The feeling is that it is degrading; and we wish as miners to have more respect to the fair sex than to see them placed on the pit bank . . . Some part of the work is very hard; some of these girls have raised as much as 10 tons of stuff a day." (ns. 1715, 1717.) "Do you think that the women employed about the collieries are less moral than the women employed in the factories?" ". . . the percentage of bad ones may be a little more . . . than with the girls in the factories." (n. 1237.) "But you are not quite satisfied with the state of morality in the factories?" "No." (n. 1733) "Would you prohibit the employment of women in factories also?" "No, I would not." (n. 1734.) "Why not?" "I think it a more honourable occupation for them in the mills." (n. 1735.) "Still it is injurious to their morality, you think?" "Not so much as working on the pit bank; but it is more on the social position I take it; I do not take it on its moral ground alone. The degradation, in its social bearing on the girls, is deplorable in the extreme. When these 400 or 500 girls become colliers' wives, the men suffer greatly from this degradation, and it causes them to leave their homes and drink." (n. 1736.) "You would be obliged to stop the employment of women in the ironworks as well, would you not, if you stopped it in the collieries?" "I cannot speak for any other trade." (n. 1737.) "Can you see any difference in the circumstances of women employed in iron-works, and the circumstances of women employed above ground in collieries?" "I have not ascertained anything as to that." (n. 1740.) "Can you see anything that makes a distinction between one class and the other?" "I have not ascertained that, but I know from house to house visitation, that it is a deplorable state of things in our district. . ." (n. 1741.) "Would you interfere in every case with the employment of women where that employment was degrading?" "It would become in-

jurious, I think, in this way: the best feelings of Englishmen have been gained from the instruction of a mother . . ." (n. 1750.) "That equally applies to agricultural employments, does it not?" "Yes, but that is only for two seasons, and we have work all the four seasons." (n. 1751). "They often work day and night, wet through to the skin, their constitution, undermined and their health ruined." "You have not inquired into that subject perhaps?" "I have certainly taken note of it as I have gone along, and certainly I have seen nothing parallel to the effects of the employment of women on the pit bank . . . It is the work of a man . . . a strong man." (ns. 1753, 1793, 1794.) "Your feeling upon the whole subject is that the better class of colliers who desire to raise themselves and humanise themselves, instead of deriving help from the women, are pulled down by them?" "Yes." (n. 1808.) After some further crooked questions from these bourgeois, the secret of their "sympathy" for widows, poor families, &c., comes out at last. "The coal proprietor appoints certain gentlemen to take the oversight of the workings, and it is their policy, in order to receive approbation, to place things on the most economical basis they can, and these girls are employed at from 1s. up to 1s. 6d. a day, where a man at the rate of 2s. 6d. a day would have to be employed." (n. 1816.)

IV. CORONER'S INQUESTS.—"With regard to coroner's inquests in your district, have the workmen confidence in the proceedings at those inquests when accidents occur?" "No; they have not." (n. 360.) "Why not?" "Chiefly because the men who are generally chosen, are men who know nothing about mines and such like." "Are not workmen summoned at all upon the juries?" "Never but as witnesses to my knowledge." "Who are the people who are generally summoned upon these juries?" "Generally tradesmen in the neighbourhood . . . . from their circumstances they are sometimes liable to be influenced by their employers . . . . the owners of the works. They are generally men who have no knowledge, and can scarcely understand the witnesses who are called before them, and the terms which are used and such like." "Would you have the jury composed of persons who

had been employed in mining?" "Yes, partly .... they (the workmen) think that the verdict is not in accordance with the evidence given generally." (ns. 361, 364, 366, 368, 371, 375.) "One great object in summoning a jury is to have an impartial one, is it not?" "Yes, I should think so." "Do you think that the juries would be impartial if they were composed to a considerable extent of workmen?" "I cannot see any motive which the workmen would have to act partially . . . they necessarily have a better knowledge of the operations in connection with the mine." "You do not think there would be a tendency on the part of the workmen to return unfairly severe verdicts?" "No, I think not." (ns. 378, 379, 380.)

V. FALSE WEIGHTS AND MEASURES.—The workmen demand to be paid weekly instead of fortnightly, and by weight instead of by cubical contents of the tubs; they also demand protection against the use of false weights, &c. (n. 1071.) "If the tubs were fraudulently increased, a man could discontinue working by giving 14 days' notice?" "But if he goes to another place, there is the same thing going on there." (n. 1071.) "But he can leave that place where the wrong has been committed?" "It is general; wherever he goes, he has to submit to it." (n. 1072.) "Could a man leave by giving 14 days' notice?" "Yes." (n. 1073.) And yet they are not satisfied!

VI. INSPECTION OF MINES.—Casualties from explosions are not the only things the workmen suffer from. (n. 234, sqq.) "Our men complained very much of the bad ventilation of the collieries . . . the ventilation is so bad in general that the men can scarcely breathe; they are quite unfit for employment of any kind after they have been for a length of time in connection with their work; indeed, just at the part of the mine where I am working, men have been obliged to leave their employment and come home in consequence of that .... some of them have been out of work for weeks just in consequence of the bad state of the ventilation where there is not explosive gas . . . there is plenty of air generally in the main courses, yet pains are not taken to get air into the workings where men are working." "Why do you not apply to the

inspector?" "To tell the truth there are many men who are timid on that point; there have been cases of men being sacrificed and losing their employment in consequence of applying to the inspector." "Why; is he a marked man for having complained?" "Yes." "And he finds it difficult to get employment in another mine?" "Yes." "Do you think the mines in your neighbourhood are sufficiently inspected to insure a compliance with the provisions of the Act?" "No; they are not inspected at all . . . the inspector has been down just once in the pit, and it has been going seven years . . . In the district to which I belong there are not a sufficient number of inspectors. We have one old man more than 70 years of age to inspect more than 130 collieries." "You wish to have a class of sub-inspectors?" "Yes." (ns. 234, 241, 251, 254, 274, 275, 554, 276, 293.) But do you think it would be possible for government to maintain such an army of inspectors as would be necessary to do all that you want them to do, without information from the men?" "No, I should think it would be next to impossible." . . . "It would be desirable the inspectors should come oftener?" "Yes, and without being sent for." (n. 280, 277.) "Do you not think that the effect of having these inspectors examining the collieries so frequently would be to shift the responsibility (!) of supplying proper ventilation from the owners of the collieries to the Government officials?" "No, I do not think that, I think that they should make it their business to enforce the Acts which are already in existence." (n. 285.) "When you speak of sub-inspectors, do you mean men at a less salary, and of an inferior stamp to the present inspectors?" "I would not have them inferior, if you could get them otherwise." (n. 294.) "Do you merely want more inspectors, or do you want a lower class of men as an inspector?" "A man who would knock about, and see that things are kept right; a man who would not be afraid of himself." (n. 295.) "If you obtained your wish in getting an inferior class of inspectors appointed, do you think that there would be no danger from want of skill, &c.?" "I think not, I think that the Government would see after that, and have proper men in that position." (n. 297.)

This kind of examination becomes at last too much even for the chairman of the committee, and he interrupts with the observation: "You want a class of men who would look into all the details of the mine, and would go into all the holes and corners, and go into the real facts . . . they would report to the chief inspector, who would then bring his scientific knowledge to bear on the facts they have stated?" (ns. 298, 299.) "Would it not entail very great expense if all these old workings were kept ventilated?" "Yes, expense might be incurred, but life would be at the same time protected." (n. 531.) A working miner objects to the 17th section of the Act of 1860; he says, "At the present time, if the inspector of mines finds a part of the mine unfit to work in, he has to report it to the mine owner and the Home Secretary. After doing that, there is given to the owner 20 days to look over the matter; at the end of 20 days he has the power to refuse making any alteration in the mine; but, when he refuses, the mine owner writes to the Home Secretary, at the same time nominating five engineers, and from those five engineers named by the mine owner himself, the Home Secretary appoints one, I think, as arbitrator, or appoints arbitrators from them; now we think in that case the mine owner virtually appoints his own arbitrator." (n. 581.) Bourgeois examiner, himself a mine owner: "But . . . is this a merely speculative objection?" (n. 586.) "Then you have a very poor opinion of the integrity of mining engineers?" "It is most certainly unjust and inequitable." (n. 588.) "Do not mining engineers possess a sort of public character, and do not you think that they are above making such a partial decision as you apprehend?" "I do not wish to answer such a question as that with respect to the personal character of those men. I believe that in many cases they would act very partially indeed, and that it ought not to be in their hands to do so, where men's lives are at stake." (n. 589.) This same bourgeois is not ashamed to put this question: "Do you not think that the mine owner also suffers loss from an explosion?" Finally, "Are not you workmen in Lancashire able to take care of your own interests without calling in the Government to help you?" "No." (n. 1042.)

In the year 1865 there were 3217 coal mines in Great Britain, and 12 inspectors. A Yorkshire mine owner himself calculates ("Times," 26th January, 1867), that putting on one side their office work, which absorbs all their time, each mine can be visited but once in ten years by an inspector. No wonder that explosions have increased progressively, both in number and extent (sometimes with a loss of 200-300 men), during the last ten years.

The very defective Act, passed in 1872, is the first that regulates the hours of labour of the children employed in mines, and makes exploiters and owners, to a certain extent, responsible for so-called accidents.

The Royal Commission appointed in 1867, to inquire into the employment in agriculture of children, young persons, and women, has published some very important reports. Several attempts to apply the principles of the Factory Acts, but in a modified form, to agriculture have been made, but have so far resulted in complete failure. All that I wish to draw attention to here is the existence of an irresistible tendency towards the general application of those principles.

If the general extension of factory legislation to all trades for the purpose of protecting the working class both in mind and body has become inevitable, on the other hand, as we have already pointed out, that extension hastens on the general conversion of numerous isolated small industries into a few combined industries carried on upon a large scale; it therefore accelerates the concentration of capital and the exclusive predominance of the factory system. It destroys both the ancient and the transitional forms, behind which the dominion of capital is still in part concealed, and replaces them by the direct and open sway of capital; but thereby it also generalises the direct opposition to this sway. While in each individual workshop it enforces uniformity, regularity, order, and economy, it increases by the immense spur which the limitation and regulation of the working day give to technical improvement, the anarchy and the catastrophes of capitalist production as a whole, the intensity of labour, and the competition of machinery with the labourer. By the destruction of

petty and domestic industries it destroys the last resort of the "redundant population," and with it the sole remaining safety-valve of the whole social mechanism. By maturing the material conditions, and the combination on a social scale of the processes of production, it matures the contradictions and antagonisms of the capitalist form of production, and thereby provides, along with the elements for the formation of a new society, the forces for exploding the old one.[1]

SECTION 10.—MODERN INDUSTRY AND AGRICULTURE.

The revolution called forth by modern industry in agriculture, and in the social relations of agricultural producers, will be investigated later on. In this place we shall merely indicate a few results by way of anticipation. If the use of machinery in agriculture is for the most part free from the injurious physical effect it has on the factory operative, its action in superseding the labourers is more intense, and finds less resistance, as we shall see later in detail. In the counties of Cambridge and Suffolk, for example, the area of cultivated land has extended very much within the last 20 years (up to 1868), while in the same period the rural population has diminished, not only relatively, but absolutely. In the United States it is as yet only virtually that agricultural machines replace labourers; in other words, they allow of the cultivation by the farmer of a larger surface, but do not actually expel the labourers employed. In 1861 the number of persons occupied in England and Wales in the manufacture of agricultural machines was 1034, whilst the number of agricultural labourers employed in the use of agricultural machines and steam engines did not exceed 1205.

[1] Robert Owen, the father of Co-operative Factories and Stores, but who, as before remarked, in no way shared the illusions of his followers with regard to the bearing of these isolated elements of transformation, not only practically made the factory system the sole foundation of his experiments, but also declared that system to be theoretically the starting point of the social revolution. Herr Vissering, Professor of Political Economy in the University of Leyden, appears to have a suspicion of this when, in his "Handboek van Praktische Staatshuishoudkunde, 1860-62," which reproduces all the platitudes of vulgar economy, he strongly supports handicrafts against the factory system.

In the sphere of agriculture, modern industry has a more revolutionary effect than elsewhere, for this reason, that it annihilates the peasant, that bulwark of the old society, and replaces him by the wage labourer. Thus the desire for social changes, and the class antagonisms are brought to the same level in the country as in the towns. The irrational, old fashioned methods of agriculture are replaced by scientific ones. Capitalist production completely tears asunder the old bond of union which held together agriculture and manufacture in their infancy. But at the same time it creates the material conditions for a higher synthesis in the future, viz., the union of agriculture and industry on the basis of the more perfected forms they have each acquired during their temporary separation. Capitalist production, by collecting the population in great centres, and causing an ever increasing preponderance of town population, on the one hand concentrates the historical motive-power of society; on the other hand, it disturbs the circulation of matter between man and the soil, *i.e.*, prevents the return to the soil of its elements consumed by man in the form of food and clothing; it therefore violates the conditions necessary to lasting fertility of the soil. By this action it destroys at the same time the health of the town labourer and the intellectual life of the rural labourer.[1] But while upsetting the naturally grown conditions for the maintenance of that circulation of matter, it imperiously calls for its restoration as a system, as a regulating law of social production, and under a form appropriate to the full development of the human race. In agriculture as in manufacture, the transformation of production under the sway of capital, means, at the same time, the martyrdom of the producer; the instrument of labour becomes the means of enslaving, exploiting, and impoverishing the

[1] "You divide the people into two hostile camps of clownish boors and emasculated dwarfs. Good heavens! a nation divided into agricultural and commercial interests, calling itself sane; nay, styling itself enlightened and civilized, not only in spite of, but in consequence of this monstrous and unnatural division." (David Urquhart, l. c., p. 119.) This passage shows, at one and the same time, the strength and the weakness of that kind of criticism which knows how to judge and condemn the present, but not how to comprehend it.

labourer; the social combination and organization of labour-processes is turned into an organised mode of crushing out the workman's individual vitality, freedom, and independence. The dispersion of the rural labourers over larger areas breaks their power of resistance while concentration increases that of the town operatives. In modern agriculture, as in the urban industries, the increased productiveness and quantity of the labour set in motion are bought at the cost of laying waste and consuming by disease labour-power itself. Moreover, all progress in capitalistic agriculture is a progress in the art, not only of robbing the labourer, but of robbing the soil; all progress in increasing the fertility of the soil for a given time, is a progress towards ruining the lasting sources of that fertility. The more a country starts its development on the foundation of modern industry, like the United States, for example, the more rapid is this process of destruction.[1]

[1] See Liebig: "Die Chemie in ihrer Anwendung auf Agricultur und Physiologie, 7. Auflage, 1862," and especially the "Einleitung in die Naturgesetze des Feldbaus," in the 1st Volume. To have developed from the point of view of natural science, the negative, *i.e.*, destructive side of modern agriculture, is one of Liebig's immortal merits. His summary, too, of the history of agriculture, although not free from gross errors, contains flashes of light. It is, however, to be regretted that he ventures on such hap-hazard assertions as the following: "By greater pulverising and more frequent ploughing, the circulation of air in the interior of porous soil is aided, and the surface exposed to the action of the atmosphere is increased and renewed; but it is easily seen that the increased yield of the land cannot be proportional to the labour spent on that land, but increases in a much smaller proportion. This law," adds Liebig, "was first enunciated by John Stuart Mill in his 'Principles of Pol. Econ.', Vol. I., p. 17, as follows: 'That the produce of land increases, *cæteris paribus*, in a diminishing ratio to the increase of the labourers employed" (Mill here introduces in an erroneous form the law enunciated by Ricardo's school, for since the 'decrease of the labourers employed,' kept even pace in England with the advance of agriculture, the law discovered in, and applied to, England, could have no application to that country, at all events), "is the universal law of agricultural industry.' This is very remarkable, since Mill was ignorant of the reason for this law." (Liebig, l. c., Bd. I., p. 143 and Note.) Apart from Liebig's wrong interpretation of the word "labour," by which word he understands something quite different from what political economy does, it is, in any case, "very remarkable" that he should make Mr. John Stuart Mill the first propounder of a theory which was first published by James Anderson in A. Smith's days, and was repeated in various works down to the beginning of the 19th century; a theory which Malthus, that master in plagiarism (the whole of his population theory is a shameless plagiarism), appropriated to himself in 1815; which West developed at the same time as, and independently of, Anderson; which in the year 1817 was connected by Ricardo with the general theory of value, then made the round of the world as Ricardo's theory, and in

Capitalist production, therefore, developes technology, and the combining together of various processes into a social whole, only by sapping the original sources of all wealth—the soil and the labourer.

1820 was vulgarised by James Mill, the father of John Stuart Mill; and which, finally, was reproduced by John Stuart Mill and others, as a dogma already quite common-place, and known to every school-boy. It cannot be denied that John Stuart Mill owes his, at all events, "remarkable" authority almost entirely to such *quid-pro-quos*.

PART V.

THE PRODUCTION OF ABSOLUTE AND OF RELATIVE SURPLUS-VALUE

CHAPTER XVI.

ABSOLUTE AND RELATIVE SURPLUS-VALUE.

IN considering the labour-process, we began (see Chapter V.) by treating it in the abstract, apart from its historical forms, as a process between man and nature. We there stated, p. 160: "If we examine the whole labour-process, from the point of view of its result, it is plain that both the instruments and the subject of labour are means of production, and that the labour itself is productive labour." And in Note 2, same page, we further added: "This method of determining, from the standpoint of the labour-process alone, what is productive labour, is by no means directly applicable to the case of the capitalist process of production." We now proceed to the further development of this subject.

So far as the labour-process is purely individual, one and the same labourer unites in himself all the functions, that later on become separated. When an individual appropriates natural objects for his livelihood, no one controls him but himself. Afterwards he is controlled by others. A single man cannot operate upon nature without calling his own muscles into play under the control of his own brain. As in the natural body head and hand wait upon each other, so the labour-process unites the labour of the hand with that of the head. Later on they part company and even become deadly foes. The product ceases to be the direct product of the individual, and becomes

a social product, produced in common by a collective labourer, *i.e.*, by a combination of workmen, each of whom takes only a part, greater or less, in the manipulation of the subject of their labour. As the co-operative character of the labour-process becomes more and more marked, so, as a necessary consequence, does our notion of productive labour, and of its agent the productive labourer, become extended. In order to labour productively, it is no longer necessary for you to do manual work yourself; enough, if you are an organ of the collective labourer, and perform one of its subordinate functions. The first definition given above of productive labour, a definition deduced from the very nature of the production of material objects, still remains correct for the collective labourer, considered as a whole. But it no longer holds good for each member taken individually.

On the other hand, however, our notion of productive labour becomes narrowed. Capitalist production is not merely the production of commodities, it is essentially the production of surplus-value. The labourer produces, not for himself, but for capital. It no longer suffices, therefore, that he should simply produce. He must produce surplus-value. That labourer alone is productive, who produces surplus-value for the capitalist, and thus works for the self-expansion of capital. If we may take an example from outside the sphere of production of material objects, a schoolmaster is a productive labourer, when, in addition to belabouring the heads of his scholars, he works like a horse to enrich the school proprietor. That the latter has laid out his capital in a teaching factory, instead of in a sausage factory, does not alter the relation. Hence the notion of a productive labourer implies not merely a relation between work and useful effect, between labourer and product of labour, but also a specific, social relation of production, a relation that has sprung up historically and stamps the labourer as the direct means of creating surplus-value. To be a productive labourer is, therefore, not a piece of luck, but a misfortune. In Book IV. which treats of the history of the theory, it will be more clearly seen, that the production of surplus-value has at all times been made, by classical political economists, the distinguishing characteristic of the productive labourer. Hence

their definition of a productive labourer changes with their comprehension of the nature of surplus-value. Thus the Physiocrats insist that only agricultural labour is productive, since that alone, they say, yields a surplus-value. And they say so because, with them, surplus-value has no existence except in the form of rent.

The prolongation of the working day beyond the point at which the labourer would have produced just an equivalent for the value of his labour-power, and the appropriation of that surplus-labour by capital, this is production of absolute surplus-value. It forms the general groundwork of the capitalist system, and the starting point for the production of relative surplus-value. The latter presupposes that the working day is already divided into two parts, necessary labour, and surplus-labour. In order to prolong the surplus-labour, the necessary labour is shortened by methods whereby the equivalent for the wages is produced in less time. The production of absolute surplus-value turns exclusively upon the length of the working day; the production of relative surplus-value, revolutionises out and out the technical processes of labour, and the composition of society. It therefore presupposes a specific mode, the capitalist mode of production, a mode which, along with its methods, means, and conditions, arises and developes itself spontaneously on the foundation afforded by the formal subjection of labour to capital. In the course of this development, the formal subjection is replaced by the real subjection of labour to capital.

It will suffice merely to refer to certain intermediate forms, in which surplus-labour is not extorted by direct compulsion from the producer, nor the producer himself yet formally subjected to capital. In such forms capital has not yet acquired the direct control of the labour-process. By the side of independent producers who carry on their handicrafts and agriculture in the traditional old-fashioned way, there stands the usurer or the merchant, with his usurer's capital or merchant's capital, feeding on them like a parasite. The predominance, in a society, of this form of exploitation excludes the capitalist mode of production; to which mode, however, this form may

serve as a transition, as it did towards the close of the Middle Ages. Finally, as is shown by modern "domestic industry," some intermediate forms are here and there reproduced in the background of Modern Industry, though their physiognomy is totally changed.

If, on the one hand, the mere formal subjection of labour to capital suffices for the production of absolute surplus-value, if, *e.g.*, it is sufficient that handicraftsmen who previously worked on their own account, or as apprentices of a master, should become wage labourers under the direct control of a capitalist; so, on the other hand, we have seen, how the methods of producing relative surplus-value, are, at the same time, methods of producing absolute surplus-value. Nay, more, the excessive prolongation of the working day turned out to be the peculiar product of Modern Industry. Generally speaking, the specifically capitalist mode of production ceases to be a mere means of producing relative surplus-value, so soon as that mode has conquered an entire branch of production; and still more so, so soon as it has conquered all the important branches. It then becomes the general, socially predominant form of production. As a special method of producing relative surplus-value, it remains effective only, first, in so far as it seizes upon industries that previously were only formally subject to capital, that is, so far as it is propagandist; secondly, in so far as the industries that have been taken over by it, continue to be revolutionized by changes in the methods of production.

From one standpoint, any distinction between absolute and relative surplus-value appears illusory. Relative surplus-value is absolute, since it compels the absolute prolongation of the working day beyond the labour-time necessary to the existence of the labourer himself. Absolute surplus-value is relative, since it makes necessary such a development of the productiveness of labour, as will allow of the necessary labour-time being confined to a portion of the working day. But if we keep in mind the behaviour of surplus-value, this appearance of identity vanishes. Once the capitalist mode of production established and become general, the difference between absolute and relative surplus-value makes itself felt, whenever there is

a question of raising the rate of surplus-value. Assuming that labour-power is paid for at its value, we are confronted by this alternative: given the productiveness of labour and its normal intensity, the rate of surplus-value can be raised only by the actual prolongation of the working day; on the other hand, given the length of the working day, that rise can be effected only by a change in the relative magnitudes of the components of the working day, viz., necessary labour and surplus-labour; a change which, if the wages are not to fall below the value of labour-power, presupposes a change either in the productiveness or in the intensity of the labour.

If the labourer wants all his time to produce the necessary means of subsistence for himself and his race, he has no time left in which to work gratis for others. Without a certain degree of productiveness in his labour, he has no such superfluous time at his disposal; without such superfluous time, no surplus-labour, and therefore no capitalists, no slave-owners, no feudal lords, in one word, no class of large proprietors.[1]

Thus we may say that surplus-value rests on a natural basis; but this is permissible only in the very general sense, that there is no natural obstacle absolutely preventing one man from disburdening himself of the labour requisite for his own existence, and burdening another with it, any more, for instance, than unconquerable natural obstacles prevent one man from eating the flesh of another.[2] No mystical ideas must in any way be connected, as sometimes happens, with this historically developed productiveness of labour. It is only after men have raised themselves above the rank of animals, when therefore their labour has been to some extent socialised, that a state of things arises in which the surplus-labour of the one becomes a condition of existence for the other. At the dawn of civilisation the productiveness acquired by labour is small, but so too are the wants which develop with and by the means of satisfying them.

[1] "The very existence of the master-capitalists, as a distinct class, is dependent on the productiveness of industry." (Ramsay, l. c. p. 206.) "If each man's labour were but enough to produce his own food, there could be no property." (Ravenstone, l. c. p. 14, 15).

[2] According to a recent calculation, there are yet at least 4,000,000 cannibals in those parts of the earth which have already been explored.

Further, at that early period, the portion of society that lives on the labour of others is infinitely small compared with the mass of direct producers. Along with the progress in the productiveness of labour, that small portion of society increases both absolutely and relatively.[1] Besides, capital with its accompanying relations springs up from an economic soil that is the product of a long process of development. The productiveness of labour that serves as its foundation and starting point, is a gift, not of nature, but of a history embracing thousands of centuries.

Apart from the degree of development, greater or less, in the form of social production, the productiveness of labour is fettered by physical conditions. These are all referable to the constitution of man himself (race, &c.), and to surrounding nature. The external physical conditions fall into two great economical classes, (1) Natural wealth in means of subsistence, *i.e.*, a fruitful soil, waters teeming with fish, &c., and (2), natural wealth in the instruments of labour, such as waterfalls, navigable rivers, wood, metal, coal, &c. At the dawn of civilisation, it is the first class that turns the scale; at a higher stage of development, it is the second. Compare, for example, England with India, or in ancient times, Athens and Corinth with the shores of the Black Sea.

The fewer the number of natural wants imperatively calling for satisfaction, and the greater the natural fertility of the soil and the favourableness of the climate, so much less is the labour-time necessary for the maintenance and reproduction of the producer. So much greater therefore can be the excess of his labour for others over his labour for himself. Diodorus long ago remarked this in relation to the ancient Egyptians. "It is altogether incredible how little trouble and expense the bringing up of their children causes them. They cook for them the first simple food at hand; they also give them the lower part of the papyrus stem to eat, so far as it can be roasted in the fire, and the roots and stalks of marsh plants,

[1] "Among the wild Indians in America, almost everything is the labourer's, 99 parts of a hundred are to be put upon the account of labour. In England, perhaps, the labourer has not $\frac{1}{3}$." (The Advantages of the East India Trade, &c. p. 73.)

some raw, some boiled and roasted. Most of the children go without shoes and unclothed, for the air is so mild. Hence a child, until he is grown up, costs his parents not more, on the whole, than twenty drachmas. It is this, chiefly, which explains why the population of Egypt is so numerous, and, therefore, why so many great works can be undertaken."[1] Nevertheless the grand structures of ancient Egypt are less due to the extent of its population than to the large proportion of it that was freely disposable. Just as the individual labourer can do more surplus-labour in proportion as his necessary labour-time is less, so with regard to the working population. The smaller the part of it which is required for the production of the necessary means of subsistence, so much the greater is the part that can be set to do other work.

Capitalist production once assumed, then, all other circumstances remaining the same, and given the length of the working day, the quantity of surplus-labour will vary with the physical conditions of labour, especially with the fertility of the soil. But it by no means follows from this that the most fruitful soil is the most fitted for the growth of the capitalist mode of production. This mode is based on the dominion of man over nature. Where nature is too lavish, she "keeps him in hand, like a child in leading-strings." She does not impose upon him any necessity to develop himself.[2] It is not the tropics with their luxuriant vegetation, but the temperate zone, that is the mother country of capital. It is not the mere fertility of the soil, but the differentiation of the soil, the variety of its natural products, the changes of the seasons,

[1] Diodorus, l. c. l. I. c. 80.

[2] "The first (natural wealth) as it is most noble and advantageous, so doth it make the people careless, proud, and given to all excesses; whereas the second enforceth vigilancy, literature, arts and policy." (England's Treasure by Foreign Trade. Or the Balance of our Foreign Trade is the Rule of our Treasure. Written by Thomas Mun of London, merchant, and now published for the common good by his son John Mun. London. 1669, p. 181, 182.) "Nor can I conceive a greater curse upon a body of people, than to be thrown upon a spot of land, where the productions for subsistence and food were, in great measure, spontaneous, and the climate required or admitted little care for raiment and covering . . . there may be an extreme on the other side. A soil incapable of produce by labour is quite as bad as a soil that produces plentifully without any labour." (An Inquiry into the present High Price of Provisions. Lond. 1767. p. 10.)

which form the physical basis for the social division of labour, and which, by changes in the natural surroundings, spur man on to the multiplication of his wants, his capabilities, his means and modes of labour. It is the necessity of bringing a natural force under the control of society, of economising, of appropriating or subduing it on a large scale by the work of man's hand, that first plays the decisive part in the history of industry. Examples are, the irrigation works in Egypt,[1] Lombardy, Holland, or in India and Persia where irrigation by means of artificial canals, not only supplies the soil with the water indispensable to it, but also carries down to it, in the shape of sediment from the hills, mineral fertilizers. The secret of the flourishing state of industry in Spain and Sicily under the dominion of the Arabs lay in their irrigation works.[2]

Favourable natural conditions alone, give us only the possibility, never the reality, of surplus-labour, nor, consequently, of surplus-value and a surplus-product. The result of difference in the natural conditions of labour is this, that the same quantity of labour satisfies, in different countries, a different mass of requirements,[3] consequently, that under circumstances

[1] The necessity for predicting the rise and fall of the Nile created Egyptian astronomy, and with it the dominion of the priests, as directors of agriculture. "Le solstice est le moment de l'année où commence la crue du Nil, et celui que les Egyptiens ont dû observer avec le plus d'attention . . . C'était cette année tropique qu'il leur importait de marquer pour se diriger dans leurs opérations agricoles. Ils durent donc chercher dans le ciel un signe apparent de son retour." (Cuvier: Discours sur les révolutions du globe, ed. Hoefer. Paris, 1863, p. 141.)

[2] One of the material bases of the power of the state over the small disconnected producing organisms in India, was the regulation of the water supply. The Mahometan rulers of India understood this better than their English successors. It is enough to recall to mind the famine of 1866, which cost the lives of more than a million Hindoos in the district of Orissa, in the Bengal presidency.

[3] "There are no two countries which furnish an equal number of the necessaries of life in equal plenty, and with the same quantity of labour. Men's wants increase or diminish with the severity or temperateness of the climate they live in; consequently, the proportion of trade which the inhabitants of different countries are obliged to carry on through necessity cannot be the same, nor is it practicable to ascertain the degree of variation farther than by the degrees of Heat and Cold; from whence one may make this general conclusion, that the quantity of labour required for a certain number of people is greatest in cold climates, and least in hot ones; for in the former men not only want more clothes, but the earth more cultivating than in the latter" (An Essay on the Governing Causes of the Natural Rate of Interest. Lond. 1750. p. 60.) The author of this epoch-making anonymous work is J. Massey. Hume took his theory of interest from it.

in other respects analogous, the necessary labour-time is different. These conditions affect surplus-labour only as natural limits, *i.e.*, by fixing the points at which labour for others can begin. In proportion as industry advances, these natural limits recede. In the midst of our West European society, where the labourer purchases the right to work for his own livelihood only by paying for it in surplus-labour, the idea easily takes root that it is an inherent quality of human labour to furnish a surplus-product.[1] But consider, for example, an inhabitant of the eastern islands of the Asiatic Archipelago, where sago grows wild in the forests. "When the inhabitants have convinced themselves, by boring a hole in the tree, that the pith is ripe, the trunk is cut down and divided into several pieces, the pith is extracted, mixed with water and filtered: it is then quite fit for use as sago. One tree commonly yields 300 lbs., and occasionally 500 to 600 lbs. There, then, people go into the forests, and cut bread for themselves, just as with us they cut firewood."[2] Suppose now such an eastern bread-cutter requires 12 working hours a week for the satisfaction of all his wants. Nature's direct gift to him is plenty of leisure time. Before he can apply this leisure time productively for himself, a whole series of historical events is required; before he spends it in surplus-labour for strangers, compulsion is necessary. If capitalist production were introduced, the honest fellow would perhaps have to work six days a week, in order to appropriate to himself the product of one working day. The bounty of Nature does not explain why he would then have to work 6 days a week, or why he must furnish 5 days of surplus-labour. It explains only why his necessary labour-time would be limited to one day a week. But in no case would his surplus-product arise from some occult quality inherent in human labour.

Thus, not only does the historically developed social productiveness of labour, but also its natural productiveness, appear to be productiveness of the capital with which that labour is incorporated.

[1] "Chaque travail doit (this appears also to be part of the droits et devoirs du citoyen) laisser un excédant." Proudhon.

[2] F. Shouw: "Die Erde, die Pflanze und der Mensch, 2. Ed. Leipz. 1854, p. 148.

Ricardo never concerns himself about the origin of surplus-value. He treats it as a thing inherent in the capitalist mode of production, which mode, in his eyes, is the natural form of social production. Whenever he discusses the productiveness of labour, he seeks in it, not the cause of surplus-value, but the cause that determines the magnitude of that value. On the other hand, his school has openly proclaimed the productiveness of labour to be the originating cause of profit (read: Surplus-value). This at all events is a progress as against the mercantilists who, on their side, derived the excess of the price over the cost of production of the product, from the act of exchange, from the product being sold above its value. Nevertheless, Ricardo's school simply shirked the problem, they did not solve it. In fact these bourgeois economists instinctively saw, and rightly so, that it is very dangerous to stir too deeply the burning question of the origin of surplus-value. But what are we to think of John Stuart Mill, who, half a century after Ricardo, solemnly claims superiority over the mercantilists, by clumsily repeating the wretched evasions of Ricardo's earliest vulgarisers?

Mill says: "The cause of profit is that labour produces more than is required for its support." So far, nothing but the old story; but Mill wishing to add something of his own, proceeds: "To vary the form of the theorem; the reason why capital yields a profit, is because food, clothing, materials and tools, last longer than the time which was required to produce them." He here confounds the duration of labour-time with the duration of its products. According to this view, a baker whose product lasts only a day, could never extract from his workpeople the same profit, as a machine maker whose products endure for 20 years and more. Of course it is very true, that if a bird's nest did not last longer than the time it takes in building, birds would have to do without nests.

This fundamental truth once established, Mill establishes his own superiority over the mercantilists. "We thus see," he proceeds, "that profit arises, not from the incident of exchange, but from the productive power of labour; and the general profit of the country is always what the productive

power of labour makes it, whether any exchange takes place or not. If there were no division of employments, there would be no buying or selling, but there would still be profit." For Mill then, exchange, buying and selling, those general conditions of capitalist production, are but an incident, and there would always be profits even without the purchase and sale of labour-power!

"If," he continues, "the labourers of the country collectively produce twenty per cent more than their wages, profits will be twenty per cent, whatever prices may or may not be." This is, on the one hand, a rare bit of tautology; for if labourers produce a surplus-value of 20% for the capitalist, his profit will be to the total wages of the labourers as 20 : 100. On the other hand, it is absolutely false to say that "profits will be 20%." They will always be less, because they are calculated upon the *sum total* of the capital advanced. If, for example, the capitalist have advanced £500, of which £400 is laid out in means of production and £100 in wages, and if the rate of surplus-value be 20%, the rate of profit will be 20 : 500, *i.e.*, 4% and not 20%.

Then follows a splendid example of Mill's method of handling the different historical forms of social production. "I assume, throughout, the state of things which, where the labourers and capitalists are separate classes, prevails, with few exceptions, universally; namely, that the capitalist advances the whole expenses, including the entire remuneration of the labourer." Strange optical illusion to see everywhere a state of things which as yet exists only exceptionally on our earth. But let us finish—Mill is willing to concede, "that he should do so is not a matter of inherent necessity." On the contrary: "the labourer might wait, until the production is complete, for all that part of his wages which exceeds mere necessaries; and even for the whole, if he has funds in hand sufficient for his temporary support. But in the latter case, the labourer is to that extent really a capitalist in the concern, by supplying a portion of the funds necessary for carrying it on." Mill might have gone further and have added, that the labourer who advances to himself not only the necessaries of

life but also the means of production, is in reality nothing but his own wage-labourer. He might also have said that the American peasant proprietor is but a serf who does enforced labour for himself instead of for his lord.

After thus proving clearly, that even if capitalist production had no existence, still it would always exist, Mill is consistent enough to show, on the contrary, that it has no existence, even when it does exist. "And even in the former case" (when the workman is a wage labourer to whom the capitalist advances all the necessaries of life, he the labourer), "may be looked upon in the same light," (*i.e.*, as a capitalist), "since, contributing his labour at less than the market price, (!) he may be regarded as lending the difference (?) to his employer and receiving it back with interest, &c." [1] In reality, the labourer advances his labour gratuitously to the capitalist during, say one week, in order to receive the market price at the end of the week, &c., and it is this which, according to Mill, transforms him into a capitalist. On the level plain, simple mounds look like hills; and the imbecile flatness of the present bourgeoisie is to be measured by the altitude of its great intellects.

CHAPTER XVII.

CHANGES OF MAGNITUDE IN THE PRICE OF LABOUR-POWER AND IN SURPLUS-VALUE.

THE value of labour-power is determined by the value of the necessaries of life habitually required by the average labourer. The quantity of these necessaries is known at any given epoch of a given society, and can therefore be treated as a constant magnitude. What changes, is the value of this quantity. There are, besides, two other factors that enter into the determination of the value of labour-power. One, the expenses

[1] J. St. Mill. Principles of Pol. Econ. Lond. 1868, p. 252-53 passim.

of developing that power, which expenses vary with the mode of production; the other, its natural diversity, the difference between the labour-power of men and women, of children and adults. The employment of these different sorts of labour-power, an employment which is, in its turn, made necessary by the mode of production, makes a great difference in the cost of maintaining the family of the labourer, and in the value of the labour-power of the adult male. Both these factors, however, are excluded in the following investigation.[1]

I assume (1) that commodities are sold at their value; (2) that the price of labour-power rises occasionally above its value, but never sinks below it.

On this assumption we have seen that the relative magnitudes of surplus-value and of price of labour-power are determined by three circumstances; (1) the length of the working day, or the extensive magnitude of labour; (2) the normal intensity of labour, its intensive magnitude, whereby a given quantity of labour is expended in a given time; (3) the productiveness of labour, whereby the same quantum of labour yields, in a given time, a greater or less quantum of product, dependent on the degree of development in the conditions of production. Very different combinations are clearly possible, according as one of the three factors is constant and two variable, or two constant and one variable, or lastly, all three simultaneously variable. And the number of these combinations is augmented by the fact that, when these factors simultaneously vary, the amount and direction of their respective variations may differ. In what follows the chief combinations alone are considered.

1. *Length of the working day and intensity of labour constant. Productiveness of labour variable.*

On these assumptions the value of labour-power, and the magnitude of surplus-value, are determined by three laws.

(1). A working day of given length always creates the same amount of value, no matter how the productiveness of labour,

[1] The case considered at pages 305-308 is here of course omitted. (Note by editor of third edition.)

and, with it, the mass of the product, and the price of each single commodity produced, may vary.

If the value created by a working day of 12 hours be, say, six shillings, then, although the mass of the articles produced varies with the productiveness of labour, the only result is that the value represented by six shillings is spread over a greater or less number of articles.

(2.) Surplus-value and the value of labour-power vary in opposite directions. A variation in the productiveness of labour, its increase or diminution, causes a variation in the opposite direction in the value of labour-power, and in the same direction in surplus-value.

The value created by a working day of 12 hours is a constant quantity, say, six shillings. This constant quantity is the sum of the surplus-value plus the value of the labour-power, which latter value the labourer replaces by an equivalent. It is self-evident, that if a constant quantity consist of two parts, neither of them can increase without the other diminishing. Let the two parts at starting be equal; 3 shillings value of labour-power, 3 shillings surplus-value. Then the value of the labour-power cannot rise from three shillings to four, without the surplus-value falling from three shillings to two; and the surplus-value cannot rise from three shillings to four, without the value of labour-power falling from three shillings to two. Under these circumstances, therefore, no change can take place in the absolute magnitude, either of the surplus-value, or of the value of labour-power, without a simultaneous change in their relative magnitudes, *i.e.*, relatively to each other. It is impossible for them to rise or fall simultaneously.

Further, the value of labour-power cannot fall, and consequently surplus-value cannot rise, without a rise in the productiveness of labour. For instance, in the above case, the value of the labour-power cannot sink from three shillings to two, unless an increase in the productiveness of labour makes it possible to produce in 4 hours the same quantity of necessaries as previously required 6 hours to produce. On the other hand, the value of the labour-power cannot rise from three shillings to four, without a decrease in the pro-

ductiveness of labour, whereby eight hours become requisite to produce the same quantity of necessaries, for the production of which six hours previously sufficed. It follows from this, that an increase in the productiveness of labour causes a fall in the value of labour-power and a consequent rise in surplus-value, while, on the other hand, a decrease in such productiveness causes a rise in the value of labour-power, and a fall in surplus-value.

In formulating this law, Ricardo overlooked one circumstance; although a change in the magnitude of the surplus-value or surplus-labour causes a change in the opposite direction in the magnitude of the value of labour-power, or in the quantity of necessary labour, it by no means follows that they vary in the same proportion. They do increase or diminish by the same quantity. But their proportional increase or diminution depends on their original magnitudes before the change in the productiveness of labour took place. If the value of the labour-power be 4 shillings, or the necessary labour-time 8 hours, and the surplus-value be 2 shillings, or the surplus-labour 4 hours, and if, in consequence of an increase in the productiveness of labour, the value of the labour-power fall to 3 shillings, or the necessary labour to 6 hours, the surplus-value will rise to 3 shillings, or the surplus-labour to 6 hours. The same quantity, 1 shilling or 2 hours, is added in one case and subtracted in the other. But the proportional change of magnitude is different in each case. While the value of the labour-power falls from 4 shillings to 3, *i.e.*, by $\frac{1}{4}$ or 25%, the surplus-value rises from 2 shillings to 3, *i.e.*, by $\frac{1}{2}$ or 50%. It therefore follows that the proportional increase or diminution in surplus-value, consequent on a given change in the productiveness of labour, depends on the original magnitude of that portion of the working day which embodies itself in surplus-value; the smaller that portion, the greater is the proportional change; the greater that portion, the less is the proportional change.

(3.) Increase or diminution in surplus-value is always consequent on, and never the cause of, the corresponding diminution or increase in the value of labour-power.[1]

[1] To this third law MacCulloch has made, amongst others, this absurd addition,

Since the working-day is constant in magnitude, and is represented by a value of constant magnitude, since, to every variation in the magnitude of surplus-value, there corresponds an inverse variation in the value of labour-power, and since the value of labour-power cannot change, except in consequence of a change in the productiveness of labour, it clearly follows, under these conditions, that every change of magnitude in surplus-value arises from an inverse change of magnitude in the value of labour-power. If, then, as we have already seen, there can be no change of absolute magnitude in the value of labour-power, and in surplus-value, unaccompanied by a change in their relative magnitudes, so now it follows that no change in their relative magnitudes is possible, without a previous change in the absolute magnitude of the value of labour-power.

According to the third law, a change in the magnitude of surplus-value, presupposes a movement in the value of labour-power, which movement is brought about by a variation in the productiveness of labour. The limit of this change is given by the altered value of labour-power. Nevertheless, even when circumstances allow the law to operate, subsidiary movements may occur. For example: if in consequence of the increased productiveness of labour, the value of labour-power fall from 4 shillings to 3, or the necessary labour-time from 8 hours to 6, the price of labour-power may possibly not fall below 3s. 8d., 3s. 6d., or 3s. 2d., and the surplus-value consequently not rise above 3s. 4d., 3s. 6d., or 3s. 10d. The amount of this fall, the lowest limit of which is 3 shillings (the new value of labour-power), depends on the relative weight, which the pressure of capital on the one side, and the resistance of the labourer on the other, throws into the scale.

The value of labour-power is determined by the value of a

that a rise in surplus-value, unaccompanied by a fall in the value of labour-power, can occur through the abolition of taxes payable by the capitalist. The abolition of such taxes makes no change whatever in the quantity of surplus-value that the capitalist extorts at first-hand from the labourer. It alters only the proportion in which that surplus-value is divided between himself and third persons. It consequently makes no alteration whatever in the relation between surplus-value and value of labour-power. MacCulloch's exception therefore proves only his misapprehension of the rule, a misfortune that as oftens happens to him in the vulgarisation of Ricardo, as it does to J. B. Say in the vulgarisation of Adam Smith.

given quantity of necessaries. It is the value and not the mass of these necessaries that varies with the productiveness of labour. It is, however, possible that, owing to an increase of productiveness, both the labourer and the capitalist may simultaneously be able to appropriate a greater quantity of these necessaries, without any change in the price of labour-power or in surplus-value. If the value of labour-power be 3 shillings, and the necessary labour-time amount to 6 hours, if the surplus-value likewise be 3 shillings, and the surplus-labour 6 hours, then if the productiveness of labour were doubled without altering the ratio of necessary labour to surplus-labour, there would be no change of magnitude in surplus-value and price of labour-power. The only result would be that each of them would represent twice as many use-values as before; these use-values being twice as cheap as before. Although labour-power would be unchanged in price, it would be above its value. If, however, the price of labour-power had fallen, not to 1s. 6d., the lowest possible point consistent with its new value, but to 2s. 10d. or 2s. 6d., still this lower price would represent an increased mass of necessaries. In this way it is possible with an increasing productiveness of labour, for the price of labour-power to keep on falling, and yet this fall to be accompanied by a constant growth in the mass of the labourer's means of subsistence. But even in such case, the fall in the value of labour-power would cause a corresponding rise of surplus-value, and thus the abyss between the labourer's position and that of the capitalist would keep widening.[1]

Ricardo was the first who accurately formulated the three laws we have above stated. But he falls into the following errors: (1) he looks upon the special conditions under which these laws hold good as the general and sole conditions of capitalist production. He knows no change, either in the length of the working day, or in the intensity of labour; con-

[1] "When an alteration takes place in the productiveness of industry, and that either more or less is produced by a given quantity of labour and capital, the proportion of wages may obviously vary, whilst the quantity, which that proportion represents, remains the same, or the quantity may vary, whilst the proportion remains the same." ("Outlines of Political Economy," &c., p. 67.)

sequently with him there can be only one variable factor, viz., the productiveness of labour; (2), and this error vitiates his analysis much more than (1), he has not, any more than have the other economists, investigated surplus-value as such, *i.e.*, independently of its particular forms, such as profit, rent, &c. He therefore confounds together the laws of the rate of surplus-value and the laws of the rate of profit. The rate of profit is, as we have already said, the ratio of the surplus-value to the total capital advanced; the rate of surplus-value is the ratio of the surplus-value to the variable part of that capital. Assume that a capital C of £500 is made up of raw material, instruments of labour, &c. (c) to the amount of £400; and of wages (v) to the amount of £100; and further, that the surplus-value (s) = £100. Then we have rate of surplus-value $\frac{s}{v} = \frac{£100}{£100} = 100\%$. But the rate of profit $\frac{s}{C} = \frac{£100}{£500} = 20\%$. It is, besides, obvious that the rate of profit may depend on circumstances that in no way affect the rate of surplus-value. I shall show in Book III. that, with a given rate of surplus-value, we may have any number of rates of profit, and that various rates of surplus-value may, under given conditions, express themselves in a single rate of profit.

II. *Working-day constant. Productiveness of labour constant. Intensity of labour variable.*

Increased intensity of labour means increased expenditure of labour in a given time. Hence a working-day of more intense labour is embodied in more products than is one of less intense labour, the length of each day being the same. Increased productiveness of labour also, it is true, will supply more products in a given working-day. But in this latter case, the value of each single product falls, for it costs less labour than before; in the former case, that value remains unchanged, for each article costs the same labour as before. Here we have an increase in the number of products, unaccompanied by a fall in their individual prices: as their number increases, so does the sum of their prices. But in the case of increased

productiveness, a given value is spread over a greater mass of products. Hence the length of the working-day being constant, a day's labour of increased intensity will be incorporated in an increased value, and, the value of money remaining unchanged, in more money. The value created varies with the extent to which the intensity of labour deviates from its normal intensity in the society. A given working-day, therefore, no longer creates a constant, but a variable value; in a day of 12 hours of ordinary intensity, the value created is, say 6 shillings, but with increased intensity, the value created may be 7, 8, or more shillings. It is clear that, if the value created by a day's labour increases from, say, 6 to 8 shillings, then the two parts into which this value is divided, viz., price of labour-power and surplus-value, may both of them increase simultaneously, and either equally or unequally. They may both simultaneously increase from 3 shillings to 4. Here, the rise in the price of labour-power does not necessarily imply that the price has risen above the value of labour-power. On the contrary, the rise in price may be accompanied by a fall in value. This occurs whenever the rise in the price of labour-power does not compensate for its increased wear and tear.

We know that, with transitory exceptions, a change in the productiveness of labour does not cause any change in the value of labour-power, nor consequently in the magnitude of surplus-value, unless the products of the industries affected are articles habitually consumed by the labourers. In the present case this condition no longer applies. For when the variation is either in the duration or in the intensity of labour, there is always a corresponding change in the magnitude of the value created, independently of the nature of the article in which that value is embodied.

If the intensity of labour were to increase simultaneously and equally in every branch of industry, then the new and higher degree of intensity would become the normal degree for the society, and would therefore cease to be taken account of. But still, even then, the intensity of labour would be different in different countries, and would modify the international application of the law of value. The more intense working-

day of one nation would be represented by a greater sum of money than would the less intense day of another nation.[1]

III. *Productiveness and Intensity of Labour constant. Length of the working-day variable.*

The working-day may vary in two ways. It may be made either longer or shorter. From our present data, and within the limits of the assumptions made on p. 528 we obtain the following laws:

(1.) The working-day creates a greater or less amount of value in proportion to its length—thus, a variable and not a constant quantity of value.

(2.) Every change in the relation between the magnitudes of surplus value and of the value of labour-power arises from a change in the absolute magnitude of the surplus-labour, and consequently of the surplus-value.

(3.) The absolute value of labour-power can change only in consequence of the reaction exercised by the prolongation of surplus-labour upon the wear and tear of labour-power. Every change in this absolute value is therefore the effect, but never the cause, of a change in the magnitude of surplus-value.

We begin with the case in which the working-day is shortened.

(1.) A shortening of the working-day under the conditions given above, leaves the value of labour-power, and with it, the necessary labour-time, unaltered. It reduces the surplus-labour and surplus-value. Along with the absolute magnitude of the latter, its relative magnitude also falls, *i.e.*, its magnitude relatively to the value of labour-power whose magnitude remains unaltered. Only by lowering the price of labour-power below its value could the capitalist save himself harmless.

[1] "All things being equal, the English manufacturer can turn out a considerably larger amount of work in a given time than a foreign manufacturer, so much as to counterbalance the difference of the working-days, between 60 hours a week here, and 72 or 80 elsewhere." (Rep. of Insp. of Fact. for 31st Oct. 1855, p. 65.) The most infallible means for reducing this qualitative difference between the English and Continental working hour would be a law shortening quantitatively the length of the working-day in Continental factories.

All the usual arguments against the shortening of the working-day, assume that it takes place under the conditions we have here supposed to exist; but in reality the very contrary is the case: a change in the productiveness and intensity of labour either precedes, or immediately follows, a shortening of the working-day.[1]

(2.) Lengthening of the working-day. Let the necessary labour-time be 6 hours, or the value of labour-power 3 shillings; also let the surplus-labour be 6 hours or the surplus-value 3 shillings. The whole working-day then amounts to 12 hours and is embodied in a value of 6 shillings. If, now, the working-day be lengthened by 2 hours and the price of labour-power remain unaltered, the surplus-value increases both absolutely and relatively. Although there is no absolute change in the value of labour-power, it suffers a relative fall. Under the conditions assumed in I. there could not be a change of relative magnitude in the value of labour-power without a change in its absolute magnitude. Here, on the contrary, the change of relative magnitude in the value of labour-power is the result of the change of absolute magnitude in surplus-value.

Since the value in which a day's labour is embodied, increases with the length of that day, it is evident that the surplus-value and the price of labour-power may simultaneously increase, either by equal or unequal quantities. This simultaneous increase is therefore possible in two cases, one, the actual lengthening of the working-day, the other, an increase in the intensity of labour unaccompanied by such lengthening.

When the working-day is prolonged, the price of labour-power may fall below its value, although that price be nominally unchanged or even rise. The value of a day's labour-power, is, as will be remembered, estimated from its normal average duration, or from the normal duration of life among the labourers, and from corresponding normal transformations of organised bodily matter into motion,[2] in conformity with the

[1] "There are compensating circumstances . . . . which the working of the Ten Hours' Act has brought to light." (Rep. of Insp. of Fact. for 1st Dec. 1848, p. 7.)

[2] "The amount of labour which a man had undergone in the course of 24 hours might be approximately arrived at by an examination of the chymical changes which had taken place in his body, changed forms in matter indicating the anterior exercise of dynamic force." (Grove: "On the Correlation of Physical Forces.")

nature of man. Up to a certain point, the increased wear and tear of labour-power, inseparable from a lengthened working-day, may be compensated by higher wages. But beyond this point the wear and tear increases in geometrical progression, and every condition suitable for the normal reproduction and functioning of labour-power is suppressed. The price of labour-power and the degree of its exploitation cease to be commensurable quantities.

IV.—*Simultaneous variations in the duration, productiveness, and intensity of labour.*

It is obvious that a large number of combinations are here possible. Any two of the factors may vary and the third remain constant, or all three may vary at once. They may vary either in the same or in different degrees, in the same or in opposite directions, with the result that the variations counteract one another, either wholly or in part. Nevertheless the analysis of every possible case is easy in view of the results given in I., II., and III. The effect of every possible combination may be found by treating each factor in turn as variable, and the other two constant for the time being. We shall, therefore, notice, and that briefly, but two important cases.

(1). *Diminishing productiveness of labour with a simultaneous lengthening of the working-day.*

In speaking of diminishing productiveness of labour, we here refer to diminution in those industries whose products determine the value of labour-power; such a diminution, for example, as results from decreasing fertility of the soil, and from the corresponding dearness of its products. Take the working-day at 12 hours and the value created by it at 6 shillings, of which one half replaces the value of the labour-power, the other forms the surplus-value. Suppose, in consequence of the increased dearness of the products of the soil, that the value of labour-power rises from 3 shillings to 4, and therefore the necessary labour-time from 6 hours to 8. If there

be no change in the length of the working-day, the surplus-labour would fall from 6 hours to 4, the surplus-value from 3 shillings to 2. If the day be lengthened by 2 hours, *i.e.*, from 12 hours to 14, the surplus-labour remains at 6 hours, the surplus-value at 6 shillings, but the surplus-value decreases compared with the value of labour-power, as measured by the necessary labour-time. If the day be lengthened by 4 hours, viz., from 12 hours to 16, the proportional magnitudes of surplus-value and value of labour-power, of surplus-labour and necessary labour, continue unchanged, but the absolute magnitude of surplus-value rises from 3 shillings to 4, that of the surplus-labour from 6 hours to 8, an increment of $33\frac{1}{3}\%$. Therefore, with diminishing productiveness of labour and a simultaneous lengthening of the working-day, the absolute magnitude of surplus-value may continue unaltered, at the same time that its relative magnitude diminishes; its relative magnitude may continue unchanged, at the same time that its absolute magnitude increases; and, provided the lengthening of the day be sufficient, both may increase.

In the period between 1799 and 1815 the increasing price of provisions led in England to a nominal rise in wages, although the real wages, expressed in the necessaries of life, fell. From this fact West and Ricardo drew the conclusion, that the diminution in the productiveness of agricultural labour had brought about a fall in the rate of surplus-value, and they made this assumption of a fact that existed only in their imaginations, the starting-point of important investigations into the relative magnitudes of wages, profits, and rent. But, as a matter of fact, surplus-value had at that time, thanks to the increased intensity of labour, and to the prolongation of the working-day, increased both in absolute and relative magnitude. This was the period in which the right to prolong the hours of labour to an outrageous extent was established;[1] the period

[1] "Corn and labour rarely march quite abreast; but there is an obvious limit, beyond which they cannot be separated. With regard to the unusual exertions made by the labouring classes in periods of dearness, which produce the fall of wages noticed in the evidence" (namely, before the Parliamentary Committee of Inquiry, 1814-15), "they are most meritorious in the individuals, and certainly favour the growth of capital. But no man of humanity could wish to see them constant and unremitted.

that was especially characterised by an accelerated accumulation of capital here, by pauperism there.[1]

(2) *Increasing intensity and productiveness of labour with simultaneous shortening of the working-day.*

Increased productiveness and greater intensity of labour, both have a like effect. They both augment the mass of articles produced in a given time. Both, therefore, shorten that portion of the working-day which the labourer needs to produce his means of subsistence or their equivalent. The minimum length of the working-day is fixed by this necessary but contractile portion of it. If the whole working-day were to shrink to the length of this portion, surplus-labour would vanish, a consummation utterly impossible under the régime of capital. Only by suppressing the capitalist form of production could the length of the working-day be reduced to the necessary labour-time. But, even in that case, the latter would extend its limits. On the one hand, because the notion of "means of subsistence" would considerably expand, and the labourer

They are most admirable as a temporary relief; but if they were constantly in action, effects of a similar kind would result from them, as from the population of a country being pushed to the very extreme limits of its food." (Malthus: "Inquiry into the Nature and Progress of Rent," Lond., 1815., p. 48, note.) All honour to Malthus that he lays stress on the lengthening of the hours of labour, a fact to which he elsewhere in his pamphlet draws attention, while Ricardo and others, in face of the most notorious facts, make invariability in the length of the working-day the ground-work of all their investigations. But the conservative interests, which Malthus served, prevented him from seeing that an unlimited prolongation of the working-day, combined with an extraordinary development of machinery, and the exploitation of women and children, must inevitably have made a great portion of the working class "supernumerary," particularly whenever the war should have ceased, and the monopoly of England in the markets of the world should have come to an end. It was, of course, far more convenient, and much more in conformity with the interests of the ruling classes, whom Malthus adored like a true priest, to explain this "over-population" by the eternal laws of Nature, rather than by the historical laws of capitalist production.

[1] "A principal cause of the increase of capital, during the war, proceeded from the greater exertions, and perhaps the greater privations of the labouring classes, the most numerous in every society. More women and children were compelled by necessitous circumstances, to enter upon laborious occupations, and former workmen were, from the same cause, obliged to devote a greater portion of their time to increase production." (Essays on Pol. Econ., in which are illustrated the principal causes of the present national distress. Lond., 1830, p. 248.)

would lay claim to an altogether different standard of life. On the other hand, because a part of what is now surplus-labour, would then count as necessary labour; I mean the labour of forming a fund for reserve and accumulation.

The more the productiveness of labour increases, the more can the working-day be shortened; and the more the working-day is shortened, the more can the intensity of labour increase. From a social point of view, the productiveness increases in the same ratio as the economy of labour, which, in its turn, includes not only economy of the means of production, but also the avoidance of all useless labour. The capitalist mode of production, while on the one hand, enforcing economy in each individual business, on the other hand, begets, by its anarchical system of competition, the most outrageous squandering of labour-power and of the social means of production, not to mention the creation of a vast number of employments, at present indispensable, but in themselves superfluous.

The intensity and productiveness of labour being given, the time which society is bound to devote to material production is shorter, and as a consequence, the time at its disposal for the free development, intellectual and social, of the individual is greater, in proportion as the work is more and more evenly divided among all the able-bodied members of society, and as a particular class is more and more deprived of the power to shift the natural burden of labour from its own shoulders to those of another layer of society. In this direction, the shortening of the working-day finds at last a limit in the generalisation of labour. In capitalist society spare time is acquired for one class by converting the whole life-time of the masses into labour-time.

CHAPTER XVIII.

VARIOUS FORMULÆ FOR THE RATE OF SURPLUS-VALUE.

We have seen that the rate of surplus-value is represented by the following formulæ.

$$\text{I.}\quad \frac{\text{Surplus-value}}{\text{Variable Capital}}\left(\frac{s}{v}\right) = \frac{\text{Surplus-value}}{\text{Value of labour-power}} = \frac{\text{Surplus-labour}}{\text{Necessary labour}}$$

The two first of these formulæ represent, as a ratio of values, that which, in the third, is represented as a ratio of the times during which those values are produced. These formulæ, supplementary the one to the other, are rigorously definite and correct. We therefore find them substantially, but not consciously, worked out in classical political economy. There we meet with the following derivative formulæ.

$$\text{II.}\quad \frac{\text{Surplus-labour}}{\text{Working-day}} = \frac{\text{Surplus-value}}{\text{Value of the Product}} = \frac{\text{Surplus-product}}{\text{Total Product}}$$

One and the same ratio is here expressed as a ratio of labour-times, of the values in which those labour-times are embodied, and of the products in which those values exist. It is of course understood that, by "Value of the Product," is meant only the value newly created in a working-day, the constant part of the value of the product being excluded.

In all of these formulæ (II.), the actual degree of exploitation of labour, or the rate of surplus-value, is falsely expressed. Let the working-day be 12 hours. Then, making the same assumptions as in former instances, the real degree of exploitation of labour will be represented in the following proportions.

$$\frac{\text{6 hours surplus-labour}}{\text{6 hours necessary labour}} = \frac{\text{Surplus-value of 3 sh.}}{\text{Variable Capital of 3 sh.}} = 100\%$$

From formulæ II. we get very differently,

$$\frac{\text{6 hours surplus-labour}}{\text{Working-day of 12 hours}} = \frac{\text{Surplus-value of 3 sh.}}{\text{Value created of 6 sh.}} = 50\%$$

These derivative formulæ express, in reality, only the proportion in which the working-day, or the value produced by

it, is divided between capitalist and labourer. If they are to be treated as direct expressions of the degree of self-expansion of capital, the following erroneous law would hold good: Surplus-labour or surplus-value can never reach 100%.[1] Since the surplus-labour is only an aliquot part of the working-day, or since surplus-value is only an aliquot part of the value created, the surplus-labour must necessarily be always less than the working-day, or the surplus-value always less than the total value created. In order, however, to attain the ratio of 100 : 100 they must be equal. In order that the surplus-labour may absorb the whole day (*i.e.*, an average day of any week or year), the necessary labour must sink to zero. But if the necessary labour vanish, so too does the surplus-labour, since it is only a function of the former. The ratio $\frac{\text{Surplus-labour}}{\text{Working-day}}$ or $\frac{\text{Surplus value}}{\text{Value created}}$ can therefore never reach the limit of $\frac{100}{100}$, still less rise to $\frac{100+x}{100}$. But not so the rate of surplus-value, the real degree of exploitation of labour. Take, *e.g.*, the estimate of L. de Lavergne, according to which the English agricultural labourer gets only $\frac{1}{4}$, the capitalist (farmer) on the other hand $\frac{3}{4}$ of the product[2] or of its value, apart from the question of how the booty is subsequently divided between the

[1] Thus, *e.g.*, in "Dritter Brief an v. Kirchmann von Rodbertus. Widerlegung der Ricardo'schen Theorie von der Grundrente und Begründung einer neuen Rententheorie. Berlin, 1851." I shall return to this letter later on; in spite of its erroneous theory of rent, it sees through the nature of capitalist production.

Note by the Editor of the 3rd Edition. It may be seen from this how favourably Marx judged his predecessors, whenever he found in them real progress, or new and sound ideas. The subsequent publication of Rodbertus' letters to Rud. Meyer has shown that the above acknowledgment by Marx wants restricting to some extent. In those letters this passage occurs: "Capital must be rescued not only from labour, but from itself, and that will be best effected, by treating the acts of the industrial capitalist as economical and political functions, that have been delegated to him with his capital, and by treating his profit as a form of salary, because we still know no other social organisation. But salaries may be regulated, and may also be reduced if they take too much from wages. The irruption of Marx into Society, as I may call his book, must be warded off. . . . Altogether, Marx's book is not so much an investigation into capital, as a polemic against the present form of capital, a form which he confounds with the concept itself of capital." (Briefe, &c., von Dr. Rodbertus-Jagetzow, herausgg. von Dr. Rud. Meyer, Berlin, 1881, I. Bd. p. 111., 48. Brief von Rodbertus.). To such ideological commonplaces did the bold attack by Rodbertus in his "social letters" finally dwindle down.

[2] That part of the product which merely replaces the constant capital advanced, is of course left out in this calculation. Mr L. de Lavergne, a blind admirer of England, is inclined to estimate the share of the capitalist too low, rather than too high.

capitalist, the landlord and others. According to this, the surplus-labour of the English agricultural labourer is to his necessary labour as 3 : 1, which gives a rate of exploitation of 300%.

The favourite method of treating the working-day as constant in magnitude became, through the use of the formulæ II., a fixed usage, because in them surplus-labour is always compared with a working-day of given length. The same holds good when the repartition of the value produced is exclusively kept in sight. The working-day that has already been realised in a given value, must necessarily be a day of given length.

The habit of representing surplus-value and value of labour-power as fractions of the value created—a habit that originates in the capitalist mode of production itself, and whose import will hereafter be disclosed—conceals the very transaction that characterises capital, namely the exchange of variable capital for living labour-power, and the consequent exclusion of the labourer from the product. Instead of the real fact, we have the false semblance of an association, in which labourer and capitalist divide the product in proportion to the different elements which they respectively contribute towards its formation.[1]

Moreover, the formulæ II. can at any time be reconverted into formulæ I. If, for instance, we have $\frac{\text{Surplus-labour of 6 hours}}{\text{Working-day of 12 hours}}$ then the necessary labour-time being 12 hours less the surplus-labour of 6 hours, we get the following result,

$$\frac{\text{Surplus-labour of 6 hours}}{\text{Necessary labour of 6 hours}} = \frac{100}{100}$$

There is a third formula which I have occasionally already anticipated ; it is

$$\text{III.} \quad \frac{\text{Surplus-value}}{\text{Value of labour-power}} = \frac{\text{Surplus labour}}{\text{Necessary labour}} = \frac{\text{Unpaid labour}}{\text{Paid labour}}$$

[1] All well-developed forms of capitalist production being forms of co-operation, nothing is, of course, easier, than to make abstraction from their antagonistic character, and to transform them by a word into some form of free association, as is done by A. de Laborde in "De l'Esprit de l'Association dans tous les intérêts de la communauté." Paris 1818. H. Carey, the Yankee, occasionally performs this conjuring trick with like success, even with the relations resulting from slavery.

After the investigations we have given above, it is no longer possible to be misled, by the formula $\frac{\text{Unpaid labour}}{\text{Paid labour}}$, into concluding, that the capitalist pays for labour and not for labour-power. This formula is only a popular expression for $\frac{\text{Surplus-labour}}{\text{Necessary labour.}}$ The capitalist pays the value, so far as price coincides with value, of the labour-power, and receives in exchange the disposal of the living labour-power itself. His usufruct is spread over two periods. During one the labourer produces a value that is only equal to the value of his labour-power: he produces its equivalent. Thus the capitalist receives in return for his advance of the price of the labour-power, a product of the same price. It is the same as if he had bought the product ready made in the market. During the other period, the period of surplus-labour, the usufruct of the labour-power creates a value for the capitalist, that costs him no equivalent.[1] This expenditure of labour-power comes to him gratis. In this sense it is that surplus-labour can be called unpaid labour.

Capital, therefore, is not only, as Adam Smith says, the command over labour. It is essentially the command over unpaid labour. All surplus-value, whatever particular form (profit, interest, or rent), it may subsequently crystallise into, is in substance the materialisation of unpaid labour. The secret of the self-expansion of capital resolves itself into having the disposal of a definite quantity of other people's unpaid labour.

[1] Although the Physiocrats could not penetrate the mystery of surplus-value, yet this much was clear to them, viz., that it is "une richesse indépendante et disponible qu'il (the possessor) n'a point achetée et qu'il vend." (Turgot: "Réflexions sur ' Formation et la Distribution des Richesses," p. 11.)

PART VI.

WAGES.

CHAPTER XIX.

THE TRANSFORMATION OF THE VALUE (AND RESPECTIVELY THE PRICE) OF LABOUR-POWER INTO WAGES.

ON the surface of bourgeois society the wage of the labourer appears as the price of labour, a certain quantity of money that is paid for a certain quantity of labour. Thus people speak of the value of labour and call its expression in money its necessary or natural price. On the other hand they speak of the market prices of labour, *i.e.*, prices oscillating above or below its natural price.

But what is the value of a commodity? The objective form of the social labour expended in its production. And how do we measure the quantity of this value? By the quantity of the labour contained in it. How then is the value, *e.g.*, of a 12 hours' working day to be determined? By the 12 working hours contained in a working day of 12 hours, which is an absurd tautology.[1]

In order to be sold as a commodity in the market, labour

[1] "Mr. Ricardo, ingeniously enough, avoids a difficulty which, on a first view, threatens to encumber his doctrine, that value depends on the quantity of labour employed in production. If this principle is rigidly adhered to, it follows that the value of labour depends on the quantity of labour employed in producing it—which is evidently absurd. By a dexterous turn, therefore, Mr. Ricardo makes the value of labour depend on the quantity of labour required to produce wages; or, to give him the benefit of his own language, he maintains, that the value of labour is to be estimated by the quantity of labour required to produce wages; by which he means the quantity of labour required to produce the money or commodities given to the labourer. This is similar to saying, that the value of cloth is estimated, not by the quantity of labour bestowed on its production, but by the quantity of labour bestowed on the production of the silver, for which the cloth is exchanged." (A Critical Discourse on the Nature, &c., of Value, p. 50, 51.)

must at all events exist before it is sold. But could the labourer give it an independent objective existence, he would sell a commodity and not labour.[1]

Apart from these contradictions, a direct exchange of money, *i.e.*, of realized labour, with living labour would either do away with the law of value which only begins to develop itself freely on the basis of capitalist production, or do away with capitalist production itself, which rests directly on wage-labour. The working day of 12 hours embodies itself, *e.g.*, in a money value of 6s. Either equivalents are exchanged, and then the labourer receives 6s. for 12 hours' labour ; the price of his labour would be equal to the price of his product. In this case he produces no surplus-value for the buyer of his labour, the 6s. are not transformed into capital, the basis of capitalist production vanishes. But it is on this very basis that he sells his labour and that his labour is wage-labour. Or else he receives for 12 hours' labour less than 6s., *i.e.*, less than 12 hours' labour. Twelve hours' labour are exchanged against 10, 6, &c., hours' labour. This equalisation of unequal quantities not merely does away with the determination of value. Such a self-destructive contradiction cannot be in any way even enunciated or formulated as a law.[2]

It is of no avail to deduce the exchange of more labour against less, from their difference of form, the one being realized, the other living.[3] This is the more absurd as the

[1] "If you call labour a commodity, it is not like a commodity which is first produced in order to exchange, and then brought to market where it must exchange with other commodities according to the respective quantities of each which there may be in the market at the time ; labour is created the moment it is brought to market ; nay, it is brought to market before it is created." (Observations on some Verbal Disputes, etc., pp. 75, 76.)

[2] "Treating labour as a commodity, and capital, the produce of labour, as another, then, if the values of these two commodities were regulated by equal quantities of labour, a given amount of labour would . . . exchange for that quantity of capital which had been produced by the same amount of labour ; antecedent labour would . . . exchange for the same amount as present labour. But the value of labour in relation to other commodities . . . is determined not by equal quantities of labour." (E. G. Wakefield in his edition of Adam Smith's "Wealth of Nations," vol. i., London, 1836, p. 231, note.)

[3] "Il a fallu convenir (a new edition of the contrat social !) que toutes les fois qu'il échangerait du travail fait contre du travail à faire, le dernier (le capitaliste) aurait une valeur supérieure au premier" (le travailleur). Simonde (*i.e.*, Sismondi), "De la Richesse Commerciale," Genève, 1803, t. 1, p. 37.

value of a commodity is determined not by the quantity of labour actually realized in it, but by the quantity of living labour necessary for its production. A commodity represents, say 6 working hours. If an invention is made by which it can be produced in 3 hours, the value, even of the commodity already produced, falls by half. It represents now 3 hours of social labour instead of the 6 formerly necessary. It is the quantity of labour required for its production, not the realized form of that labour, by which the amount of the value of a commodity is determined.

That which comes directly face to face with the possessor of money on the market, is in fact not labour, but the labourer. What the latter sells is his labour-power. As soon as his labour actually begins, it has already ceased to belong to him; it can therefore no longer be sold by him. Labour is the substance, and the immanent measure of value, but *has itself no value.*[1]

In the expression "value of labour," the idea of value is not only completely obliterated, but actually reversed. It is an expression as imaginary as the value of the earth. These imaginary expressions, arise, however, from the relations of production themselves. They are categories for the phenomenal forms of essential relations. That in their appearance things often represent themselves in inverted form is pretty well known in every science except political economy.[2]

[1] "Labour the exclusive standard of value . . . the creator of all wealth, no commodity." Th. Hodgskin, l. c. p. 186.

[2] On the other hand, the attempt to explain such expressions as merely poetic license only shows the impotence of the analysis. Hence, in answer to Proudhon's phrase; "Le travail est dit valoir, non pas en tant que marchandise lui même, mais en vue des valeurs qu'on suppose renfermées puissanciellement en lui. La valeur du travail est une expression figurée," &c., I have remarked: "Dans le travail-marchandise qui est d'une réalité effrayante, il (Proudhon) ne voit qu'une ellipse grammaticale. Donc, toute la société actuelle, fondée sur le travail-marchandise, est désormais fondée sur une license poétique, sur une expression figurée. La société veut-elle 'éliminer tous les inconvénients,' qui la travaillent, eh bien! qu'elle élimine les termes malsonnants, qu'elle change de langage, et pour cela elle n'a qu'à s'adresser à l'Académie pour lui demander une nouvelle édition de son dictionnaire." (Karl Marx. "Misère de la Philosophie," p. 34, 35.) It is naturally still more convenient to understand by value nothing at all. Then one can without difficulty subsume everything under this category. Thus, *e.g.*, J. B. Say; what is "valeur?" Answer: "C'est ce qu'une chose vaut," and what is "prix?" Answer: "La valeur d'une

Classical political economy borrowed from every-day life the category "price of labour" without further criticism, and then simply asked the question, how is this price determined? It soon recognized that the change in the relations of demand and supply explained in regard to the price of labour, as of all other commodities, nothing except its changes, *i.e.*, the oscillations of the market price above or below a certain mean. If demand and supply balance, the oscillation of prices ceases, all other conditions remaining the same. But then demand and supply also cease to explain anything. The price of labour, at the moment when demand and supply are in equilibrium, is its natural price, determined independently of the relation of demand and supply. And how this price is determined, is just the question. Or a larger period of oscillations in the market-price is taken, *e.g.*, a year, and they are found to cancel one the other, leaving a mean average quantity, a relatively constant magnitude. This had naturally to be determined otherwise than by its own compensating variations. This price which always finally predominates over the accidental market-prices of labour and regulates them, this "necessary price" (physiocrats) or "natural price" of labour (Adam Smith) can, as with all other commodities, be nothing else than its value expressed in money. In this way political economy expected to penetrate athwart the accidental prices of labour, to the value of labour. As with other commodities, this value was determined by the cost of production. But what is the cost of production —of the labourer, *i.e.*, the cost of producing or reproducing the labourer himself? This question unconsciously substituted itself in political economy for the original one; for the search after the cost of production of labour as such turned in a circle and never left the spot. What economists therefore call value of labour, is in fact the value of labour-power, as it exists in the personality of the labourer, which is as different from its function, labour, as a machine is from the work it performs. Occupied with the difference between the market-price of

chose exprimée en monnaie." And why has "le travail de la terre . . . une valeur? Parce qu'on y met un prix." Therefore value is what a thing is worth, and the land has its "value," because its value is "expressed in money." This is, anyhow, a very simple way of explaining the why and the wherefore of things.

labour and its so-called value, with the relation of this value to the rate of profit, and to the values of the commodities produced by means of labour, &c., they never discovered that the course of the analysis had led not only from the market prices of labour to its presumed value, but had led to the resolution of this value of labour itself into the value of labour-power. Classical economy never arrived at a consciousness of the results of its own analysis; it accepted uncritically the categories "value of labour," "natural price of labour," &c., as final and as adequate expressions for the value-relation under consideration, and was thus led, as will be seen later, into inextricable confusion and contradiction, while it offered to the vulgar economists a secure basis of operations for their shallowness, which on principle worships appearances only.

Let us next see how value (and price) of labour-power, present themselves in this transformed condition as wages.

We know that the daily value of labour-power is calculated upon a certain length of the labourer's life, to which, again, corresponds a certain length of working-day. Assume the habitual working-day as 12 hours, the daily value of labour-power as 3s., the expression in money of a value that embodies 6 hours of labour. If the labourer receives 3s., then he receives the value of his labour-power functioning through 12 hours. If, now, this value of a day's labour-power is expressed as the value of a day's labour itself, we have the formula: Twelve hours' labour has a value of 3s. The value of labour-power thus determines the value of labour, or, expressed in money, its necessary price. If, on the other hand, the price of labour-power differs from its value, in like manner the price of labour differs from its so-called value.

As the value of labour is only an irrational expression for the value of labour-power, it follows, of course, that the value of labour must always be less than the value it produces, for the capitalist always makes labour-power work longer than is necessary for the reproduction of its own value. In the above example, the value of the labour-power that functions through 12 hours is 3s., a value for the reproduction of which 6 hours are required. The value which the labour-power produces is,

on the other hand, 6s., because it, in fact, functions during 12 hours, and the value it produces depends, not on its own value, but on the length of time it is in action. Thus, we have a result absurd at first sight—that labour which creates a value of 6s. possesses a value of 3s.[1]

We see, further: The value of 3s. by which a part only of the working-day—*i.e.*, 6 hours' labour—is paid for, appears as the value or price of the whole working-day of 12 hours, which thus includes 6 hours unpaid for. The wage-form thus extinguishes every trace of the division of the working-day into necessary labour and surplus-labour, into paid and unpaid labour. All labour appears as paid labour. In the corvée, the labour of the worker for himself, and his compulsory labour for his lord, differ in space and time in the clearest possible way. In slave-labour, even that part of the working-day in which the slave is only replacing the value of his own means of existence, in which, therefore, in fact, he works for himself alone, appears as labour for his master. All the slave's labour appears as unpaid labour.[2] In wage-labour, on the contrary, even surplus labour, or unpaid labour, appears as paid. There the property-relation conceals the labour of the slave for himself; here the money-relation conceals the unrequited labour of the wage-labourer.

Hence, we may understand the decisive importance of the transformation of value and price of labour-power into the form of wages, or into the value and price of labour itself. This phenomenal form, which makes the actual relation invisible, and, indeed, shows the direct opposite of that relation, forms the basis of all the juridical notions of both labourer and capitalist, of all the mystifications of the capitalistic mode of

[1] Cf. Zur Kritik der Politischen Œkonomie, p. 40, where I state that, in the portion of that work that deals with Capital, this problem will be solved: "How does production, on the basis of exchange-value determined simply by labour-time, lead to the result that the exchange-value of labour is less than the exchange-value of its product?"

[2] The "Morning Star," a London free-trade organ, naïf to silliness, protested again and again during the American civil war, with all the moral indignation of which man is capable, that the negro in the "Confederate States" worked absolutely for nothing. It should have compared the daily cost of such a negro with that of the free workman in the East end of London.

production, of all its illusions as to liberty, of all the apologetic shifts of the vulgar economists.

If history took a long time to get at the bottom of the mystery of wages, nothing, on the other hand, is more easy to understand than the necessity, the *raison d'être*, of this phenomenon.

The exchange between capital and labour at first presents itself to the mind in the same guise as the buying and selling of all other commodities. The buyer gives a certain sum of money, the seller an article of a nature different from money. The jurist's consciousness recognises in this, at most, a material difference, expressed in the juridically equivalent formulæ: "Do ut des, do ut facias, facio ut des, facio ut facias."

Further. Exchange-value and use-value, being intrinsically incommensurable magnitudes, the expressions "value of labour," "price of labour," do not seem more irrational than the expressions "value of cotton," "price of cotton." Moreover, the labourer is paid after he has given his labour. In its function of means of payment, money realises subsequently the value or price of the article supplied—*i.e.*, in this particular case, the value or price of the labour supplied. Finally, the use-value supplied by the labourer to the capitalist is not, in fact, his labour-power, but its function, some definite useful labour, the work of tailoring, shoemaking, spinning, &c. That this same labour is, on the other hand, the universal value-creating element, and thus possesses a property by which it differs from all other commodities, is beyond the cognisance of the ordinary mind.

Let us put ourselves in the place of the labourer who receives for 12 hours' labour, say the value produced by 6 hours' labour, say 3s. For him, in fact, his 12 hours' labour is the means of buying the 3s. The value of his labour-power may vary, with the value of his usual means of subsistence, from 3 to 4 shillings, or from 3 to 2 shillings; or, if the value of his labour-power remains constant, its price may, in consequence of changing relations of demand and supply, rise to 4s. or fall to 2s. He always gives 12 hours of labour. Every change in the amount of the equivalent that he receives

appears to him, therefore, necessarily as a change in the value or price of his 12 hours' work. This circumstance misled Adam Smith, who treated the working-day as a constant quantity,[1] to the assertion that the value of labour is constant, although the value of the means of subsistence may vary, and the same working-day, therefore, may represent itself in more or less money for the labourer.

Let us consider, on the other hand, the capitalist. He wishes to receive as much labour as possible for as little money as possible. Practically, therefore, the only thing that interests him is the difference between the price of labour-power and the value which its function creates. But, then, he tries to buy all commodities as cheaply as possible, and always accounts for his profit by simple cheating, by buying under, and selling over the value. Hence, he never comes to see that, if such a thing as the value of labour really existed, and he really paid this value, no capital would exist, his money would not be turned into capital.

Moreover, the actual movement of wages presents phenomena which seem to prove that not the value of labour-power is paid, but the value of its function, of labour itself. We may reduce these phenomena to two great classes: (1.) Change of wages with the changing length of the working-day. One might as well conclude that not the value of a machine is paid, but that of its working, because it costs more to hire a machine for a week than for a day. (2.) The individual difference in the wages of different labourers who do the same kind of work. We find this individual difference, but are not deceived by it, in the system of slavery, where, frankly and openly, without any circumlocution, labour-power itself is sold. Only, in the slave system, the advantage of a labour-power above the average, and the disadvantage of a labour-power below the average, affects the slave-owner; in the wage-labour system it affects the labourer himself, because his labour-power is, in the one case, sold by himself, in the other, by a third person.

For the rest, in respect to the phenomenal form, "value and

[1] Adam Smith only accidentally alludes to the variation of the working-day when he is referring to piece-wages.

price of labour," or "wages," as contrasted with the essential relation manifested therein, viz., the value and price of labour-power, the same difference holds that holds in respect to all phenomena and their hidden substratum. The former appear directly and spontaneously as current modes of thought; the latter must first be discovered by science. Classical political economy nearly touches the true relation of things, without, however, consciously formulating it. This it cannot so long as it sticks in its bourgeois skin.

CHAPTER XX.

TIME-WAGES.

WAGES themselves again take many forms, a fact not recognizable in the ordinary economical treatises which, exclusively interested in the material side of the question, neglect every difference of form. An exposition of all these forms however, belongs to the special study of wage-labour, not therefore to this work. Still the two fundamental forms must be briefly worked out here.

The sale of labour-power, as will be remembered, takes place for a definite period of time. The converted form under which the daily, weekly, &c., value of labour-power presents itself, is hence that of time-wages, therefore day-wages, &c.

Next it is to be noted that the laws set forth, in the 17th chapter, on the changes in the relative magnitudes of price of labour-power and surplus-value, pass by a simple transformation of form, into laws of wages. Similarly the distinction between the exchange-value of labour-power, and the sum of the necessaries of life into which this value is converted, now reappears as the distinction between nominal and real wages. It would be useless to repeat here, with regard to the phenomenal form, what has been already worked out in the sub-

stantial form. We limit ourselves therefore to a few points characteristic of time-wages.

The sum of money [1] which the labourer receives for his daily or weekly labour, forms the amount of his nominal wages, or of his wages estimated in value. But it is clear that according to the length of the working-day, that is, according to the amount of actual labour daily supplied, the same daily or weekly wage may represent very different prices of labour, *i.e.*, very different sums of money for the same quantity of labour.[2] We must, therefore, in considering time-wages, again distinguish between the sum total of the daily or weekly wages, &c., and the price of labour. How then to find this price, *i.e.*, the money-value of a given quantity of labour? The average price of labour is found, when the average daily value of the labour-power is divided by the average number of hours in the working-day. If, *e.g.*, the daily value of labour-power is 3 shillings, the value of the product of 6 working hours, and if the working-day is 12 hours, the price of 1 working hour is $\frac{3}{12}$ shillings = 3d. The price of the working hour thus found serves as the unit measure for the price of labour.

It follows therefore that the daily and weekly wages, &c., may remain the same, although the price of labour falls constantly. If, *e.g.*, the habitual working-day is 10 hours and the daily value of the labour-power 3s., the price of the working hour is $3\frac{3}{5}$d. It falls to 3d. as soon as the working-day rises to 12 hours, to $2\frac{2}{5}$d. as soon as it rises to 15 hours. Daily or weekly wages remain, despite all this, unchanged. On the contrary, the daily or weekly wages may rise, although the price of labour remains constant or even falls. If, *e.g.*, the working day is 10 hours, and the daily value of labour-power 3 shillings, the price of one working hour is $3\frac{3}{5}$d. If the labourer in consequence of increase of trade works 12 hours, the price of labour remaining the same, his daily wage

[1] The value of money itself is here always supposed constant.

[2] "The price of labour is the sum paid for a given quantity of labour." (Sir Edward West, "Price of Corn and Wages of Labour." London, 1836, p. 67). West is the author of the anonymous "Essay on the Application of Capital to Land. By a Fellow of the University College of Oxford, London, 1815." An epoch making work in the history of political economy.

now rises to 3 shillings $7\frac{1}{5}$d. without any variation in the price of labour. The same result might follow if, instead of the extensive amount of labour, its intensive amount increased.[1] The rise of the nominal daily or weekly wages may therefore be accompanied by a price of labour that remains stationary or falls. The same holds as to the income of the labourer's family, as soon as the quantity of labour expended by the head of the family is increased by the labour of the members of his family. There are, therefore, methods of lowering the price of labour independent of the reduction of the nominal daily or weekly wages.[2]

As a general law it follows that, given the amount of daily, weekly labour, &c., the daily or weekly wages depend on the price of labour which itself varies either with the value of labour-power, or with the difference between its price and its value. Given, on the other hand, the price of labour, the daily or weekly wages depend on the quantity of the daily or weekly labour.

The unit measure for time-wages, the price of the working-hour, is the quotient of the value of a day's labour-power, divided by the number of hours of the average working-day. Let the latter be 12 hours, and the daily value of labour-power 3 shillings, the value of the product of 6 hours of labour.

[1] "The wages of labour depend upon the price of labour and the quantity of labour performed . . . . An increase in the wages of labour does not necessarily imply an enhancement of the price of labour. From fuller employment, and greater exertions, the wages of labour may be considerably increased, while the price of labour may continue the same." West, l. c. pp. 67, 68, 112. The main question: "How is the price of labour determined?" West, however, dismisses with mere banalities.

[2] This is perceived by the fanatical representative of the industrial bourgeoisie of the 18th century, the author of the "Essay on Trade and Commerce" often quoted by us, although he puts the matter in a confused way: "It is the quantity of labour and not the price of it (he means by this the nominal daily or weekly wages) that is determined by the price of provisions and other necessaries: reduce the price of necessaries very low, and of course you reduce the quantity of labour in proportion. Master manufacturers know that there are various ways of raising and felling the price of labour, besides that of altering its nominal amount." (l. c. pp. 48, 61.) In his "Three Lectures on the rate of Wages," London, 1830, in which N. W. Senior uses West's work without mentioning it, he says: "The labourer is principally interested in the amount of wages," (p. 14), that is to say the labourer is principally interested in what he receives, the nominal sum of his wages, not in that which he gives, the amount of labour!

Under these circumstances the price of a working-hour is 3d., the value produced in it is 6d. If the labourer is now employed less than 12 hours (or less than 6 days in the week), *e.g.*, only 6 or 8 hours, he receives, with this price of labour, only 2s. or 1s. 6d. a day.[1] As on our hypothesis he must work on the average 6 hours daily, in order to produce a day's wage corresponding merely to the value of his labour-power, as according to the same hypothesis he works only half of every hour for himself, and half for the capitalist, it is clear that he cannot obtain for himself the value of the product of 6 hours if he is employed less than 12 hours. In previous chapters we saw the destructive consequences of over-work; here we find the sources of the sufferings that result to the labourer from his insufficient employment.

If the hour's wage is fixed so that the capitalist does not bind himself to pay a day's or a week's wage, but only to pay wages for the hours during which he chooses to employ the labourer, he can employ him for a shorter time than that which is originally the basis of the calculation of the hour-wage, or the unit-measure of the price of labour. Since this unit is determined by the ratio $\frac{\text{daily value of labour-power}}{\text{working-day of a given number of hours}}$ it, of course, loses all meaning as soon as the working-day ceases to contain a definite number of hours. The connexion between the paid and the unpaid labour is destroyed. The capitalist can now wring from the labourer a certain quantity of surplus-labour without allowing him the labour-time necessary for his own subsistence. He can annihilate all regularity of employment, and according to his own convenience, caprice, and the interest of the moment, make the most enormous over-work alternate with relative or absolute cessation of work. He can, under the pretence of paying "the normal price of labour," abnormally lengthen the working-day

[1] The effect of such an abnormal lessening of employment is quite different from that of a general reduction of the working-day, enforced by law. The former has nothing to do with the absolute length of the working-day, and may occur just as well in a working-day of 15, as of 6 hours. The normal price of labour is in the first case calculated on the labourer working 15 hours, in the second case on his working 6 hours a day on the average. The result is therefore the same if he in the one case is employed only for 7½, in the other only for 3 hours.

without any corresponding compensation to the labourer. Hence the perfectly rational revolt in 1860 of the London labourers, employed in the building trades, against the attempt of the capitalists to impose on them this sort of wage by the hour. The legal limitation of the working-day puts an end to such mischief, although not, of course, to the diminution of employment caused by the competition of machinery, by changes in the quality of the labourers employed, and by crises partial or general.

With an increasing daily or weekly wage the price of labour may remain nominally constant, and yet may fall below its normal level. This occurs every time that, the price of labour (reckoned per working-hour) remaining constant, the working-day is prolonged beyond its customary length. If in the fraction: $\frac{\text{daily value of labour-power}}{\text{working day}}$ the denominator increases, the numerator increases yet more rapidly. The value of labour-power, as dependent on its wear and tear, increases with the duration of its functioning, and in more rapid proportion than the increase of that duration. In many branches of industry where time-wage is the general rule without legal limits to the working-time, the habit has, therefore, spontaneously grown up of regarding the working-day as normal only up to a certain point, *e.g.*, up to the expiration of the tenth hour ("normal working-day," "the day's work," "the regular hours of work"). Beyond this limit the working-time is over-time, and is, taking the hour as unit-measure, paid better ("extra pay"), although often in a proportion ridiculously small.[1] The normal working-day exists here as a fraction of the actual working-day, and the latter, often during the whole year, lasts longer than the former.[2] The increase in the price of labour with the exten-

[1] "The rate of payment for overtime (in lace-making) is so small, from ½d. and ¾d. to 2d. per hour, that it stands in painful contrast to the amount of injury produced to the health and stamina of the workpeople. . . . . The small amount thus earned is also often obliged to be spent in extra nourishment." ("Child Emp. Com., II. Rep.," p. xvi., n. 117.)

[2] *E.g.*, in paper-staining before the recent introduction into this trade of the Factory Act. "We work on with no stoppage for meals, so that the day's work of 10½ hours is finished by 4.30 p.m., and all after that is overtime, and we seldom leave off working before 6 p.m., so that we are really working overtime the whole year round." 'Mr Smith's "Evidence in Child. Emp. Com., I. Rep.," p. 125.)

sion of the working-day beyond a certain normal limit, takes such a shape in various British industries that the low price of labour during the so-called normal time compels the labourer to work during the better paid over-time, if he wishes to obtain a sufficient wage at all.[1] Legal limitation of the working-day puts an end to these amenities.[2]

It is a fact generally known that, the longer the working-days, in any branch of industry, the lower are the wages.[3] A. Redgrave, factory-inspector, illustrates this by a comparative review of the 20 years from 1839-1859, according to which wages rose in the factories under the 10 hours' law, whilst they fell in the factories in which the work lasted 14 to 15 hours daily.[4]

From the law: "the price of labour being given, the daily or weekly wage depends on the quantity of labour expended,"

[1] *E.g.*, in the Scotch bleaching-works. "In some parts of Scotland this trade [before the introduction of the Factory Act in 1862] was carried on by a system of overtime, *i.e.*, ten hours a day were the regular hours of work, for which a nominal wage of 1s. 2d. per day was paid to a man, there being every day overtime for three or four hours, paid at the rate of 3d. per hour. The effect of this system . . . a man could not earn more than 8s. per week when working the ordinary hours . . . without overtime they could not earn a fair day's wages." ("Rept. of Insp. of Factories," April 30th, 1863, p. 10.) "The higher wages, for getting adult males to work longer hours, are a temptation too strong to be resisted." ("Rept. of Insp. of Fact.," April 30th, 1848, p. 5.) The bookbinding trade in the city of London employs very many young girls from 14 to 15 years old, and that under indentures which prescribe certain definite hours of labour. Nevertheless, they work in the last week of each month until 10, 11, 12, or 1 o'clock at night, along with the older labourers, in a very mixed company. "The masters tempt them by extra pay and supper," which they eat in neighbouring public-houses. The great debauchery thus produced among these 'young immortals' ("Children's Employment Comm., V. Rept.," p. 44, n. 191) is compensated by the fact that among the rest many Bibles and religious books are bound by them.

[2] *See* "Reports of Insp. of Fact.," 30th April, 1863, l. c. With very accurate appreciation of the state of things, the London labourers employed in the building trades declared, during the great strike and lockout of 1860, that they would only accept wages by the hour under two conditions (1) that, with the price of the working-hour, a normal working-day of 9 and 10 hours respectively should be fixed, and that the price of the hour for the 10 hours' working-day should be higher than that for the hour of the 9 hours' working-day; (2), that every hour beyond the normal working-day should be reckoned as overtime and proportionally more highly paid.

[3] "It is a very notable thing, too, that where long hours are the rule, small wages are also so." ("Report of Insp. of Fact.," 31st Oct., 1863, p. 9.) "The work which obtains the scanty pittance of food, is, for the most part, excessively prolonged." ("Public Health, Sixth Report," 1864, p. 15.)

[4] "Reports of Inspectors of Fact.," 30th April, 1860, pp. 31, 32.

it follows, first of all, that, the lower the price of labour, the greater must be the quantity of labour, or the longer must be the working-day for the labourer to secure even a miserable average-wage. The lowness of the price of labour acts here as a stimulus to the extension of the labour-time.[1]

On the other hand, the extension of the working-time produces, in its turn, a fall in the price of labour, and with this a fall in the day's or week's wages.

The determination of the price of labour by:

$$\frac{\text{daily value of labour-power}}{\text{working-day of a given number of hours,}}$$

shows that a mere prolongation of the working-day lowers the price of labour, if no compensation steps in. But the same circumstances which allow the capitalist in the long run to prolong the working-day, also allow him first, and compel him finally, to nominally lower the price of labour, until the total price of the increased number of hours is lowered, and, therefore, the daily or weekly wage. Reference to two circumstances is sufficient here. If one man does the work of $1\frac{1}{2}$ or 2 men, the supply of labour increases, although the supply of labour-power on the market remains constant. The competition thus created between the labourers allows the capitalist to beat down the price of labour, whilst the falling price of labour allows him, on the other hand, to screw up still further the working-time.[2] Soon, however, this command over abnormal quantities of unpaid labour, *i.e.*, quantities in excess of the average social amount, becomes a source of competition amongst

[1] The hand-nail makers in England, *e.g.*, have, on account of the low price of labour, to work 15 hours a day in order to hammer out their miserable weekly wage. "It's a great many hours in a day (6 a.m. to 8 p.m.), and he has to work hard all the time to get 11d. or 1s., and there is the wear of the tools, the cost of firing, and something for waste iron to go out of this, which takes off altogether 2½d. or 3d." ("Children's Employment Com., III. Report," p. 136, n. 671.) The women earn by the same working-time a week's wage of only 5 shillings (l. c., p. 137, n. 674.)

[2] If a factory-hand, *e.g.*, refused to work the customary long hours, "he would very shortly be replaced by somebody who would work any length of time, and thus be thrown out of employment." ("Report of Inspectors of Fact.," 31st Oct., 1848. Evidence, p. 39. n. 58.) "If one man performs the work of two . . . . the rate of profits will generally be raised . . . . in consequence of the additional supply of labour having diminished its price." (Senior, l. c., p. 14.)

the capitalists themselves. A part of the price of the commodity consists of the price of labour. The unpaid part of the labour-price need not be reckoned in the price of the commodity. It may be presented to the buyer. This is the first step to which competition leads. The second step to which it drives, is to exclude also from the selling-price of the commodity, at least a part of the abnormal surplus-value created by the extension of the working-day. In this way an abnormally low selling-price of the commodity arises, at first sporadically, and becomes fixed by degrees; a lower selling-price which henceforward becomes the constant basis of a miserable wage for an excessive working-time, as originally it was the product of these very circumstances. This movement is simply indicated here, as the analysis of competition does not belong to this part of our subject. Nevertheless, the capitalist may, for a moment, speak for himself. "In Birmingham there is so much competition of masters one against another, that many are obliged to do things as employers that they would otherwise be ashamed of; and yet no more money is made, but only the public gets the benefit."[1] The reader will remember the two sorts of London bakers, of whom one sold the bread at its full price (the "full-priced" bakers), the other below its normal price ("the underpriced," "the undersellers"). The "full-priced" denounced their rivals before the Parliamentary Committee of Inquiry: "They only exist now by first defrauding the public, and next getting 18 hours' work out of their men for 12 hours' wages. . . . The unpaid labour of the men was made . . . the source whereby the competition was carried on, and continues so to this day. . . . The competition among the master bakers is the cause of the difficulty in getting rid of night-work. An underseller, who sells his bread below the cost price according to the price of flour, must make it up by getting more out of the labour of the men. . . . If I got only 12 hours' work out of my men, and my neighour got 18 or 20, he must beat me in the selling price. If the men could insist on payment for over-work, this would be set right. . . . . A large number of those employed by the undersellers are

[1] "Children's Employment Com., III. Rep.," Evidence, p. 66, n. 22.

foreigners, and youths, who are obliged to accept almost any wages they can obtain."[1]

This jeremiad is also interesting because it shows, how the appearance only of the relations of production mirrors itself in the brain of the capitalist. The capitalist does not know that the normal price of labour also includes a definite quantity of unpaid labour, and that this very unpaid labour is the normal source of his gain. The category, surplus-labour-time, does not exist at all for him, since it is included in the normal working-day, which he thinks he has paid for in the day's wages. But overtime does exist for him, the prolongation of the working day beyond the limits corresponding with the usual price of labour. Face to face with his underselling competitor, he even insists upon extra pay for this overtime. He again does not know that this extra pay includes unpaid labour, just as well as does the price of the customary hour of labour. For example, the price of one hour of the 12 hours' working-day is 3d., say the value-product of half a working-hour, whilst the price of the overtime working-hour is 4d., or the value-product of $\frac{2}{3}$ of a working-hour. In the first case the capitalist appropriates to himself one-half, in the second one-third of the working-hour without paying for it.

CHAPTER XXI.

PIECE-WAGES.

WAGES by the piece are nothing else than a converted form of wages by time, just as wages by time are a converted form of the value or price of labour-power.

In piece-wages it seems at first sight as if the use-value

[1] "Report, &c., relative to the Grievances complained of by the Journeymen Bakers." Lond. 1862, p. 411, and ib. Evidence, notes 479, 359, 27. Anyhow the full-priced also, as was mentioned above, and as their spokesman, Bennett, himself admits, make their men "generally begin work at 11 p.m. . . . up to 8 o'clock the next morning . . . they are then engaged all day long . . . as late as 7 o'clock in the evening." (l. c., p. 22.)

bought from the labourer was, not the function of his labour-power, living labour, but labour already realised in the product, and as if the price of this labour was determined, not as with time-wages, by the fraction: $\frac{\text{daily value of labour-power}}{\text{working day of given number of hours}}$ but by the capacity for work of the producer.[1]

The confidence that trusts in this appearance ought to receive a first severe shock from the fact that both forms of wages exist side by side, simultaneously, in the same branches of industry; *e.g.*, "the compositors of London, as a general rule, work by the piece, time-work being the exception, while those in the country work by the day, the exception being work by the piece. The shipwrights of the port of London work by the job or piece, while those of all other parts work by the day."[2]

In the same saddlery shops of London, often for the same work, piece-wages are paid to the French, time-wages to the English. In the regular factories in which throughout piece-wages predominate, particular kinds of work are unsuitable to this form of wage, and are therefore paid by time.[3] But it is moreover self-evident that the difference of form in the payment of wages alters in no way their essential nature,

[1] "The system of piece-work illustrates an epoch in the history of the working man; it is halfway between the position of the mere day labourer depending upon the will of the capitalist and the co-operative artizan, who in the not distant future promises to combine the artizan and the capitalist in his own person. Piece-workers are in fact their own masters, even whilst working upon the capital of the employer." (John Watts: "Trade Societies and Strikes, Machinery and Co-operative Societies." Manchester, 1865, p. 52, 53.) I quote this little work because it is a very sink of all long-ago-rotten, apologetic commonplaces. This same Mr. Watts earlier traded in Owenism and published in 1842 another pamphlet: "Facts and Fictions of Political Economists," in which among other things he declares that "property is robbery." That is long ago.

[2] T. J. Dunning: "Trade's Unions and Strikes," Lond. 1860. p. 22.

[3] How the existence, side by side and simultaneously, of these two forms of wage favours the masters' cheating: "A factory employs 400 people, the half of which work by the piece, and have a direct interest in working longer hours. The other 200 are paid by the day, work equally long with the others, and get no more money for their overtime. . . . The work of these 200 people for half an hour a day is equal to one person's work for 50 hours, or $\frac{5}{6}$ of one person's labour in a week, and is a positive gain to the employer." ("Reports of Insp. of Fact., 31st Oct., 1860," p. 9.) "Overworking to a very considerable extent still prevails; and, in most instances, with that security against detection and punishment which the law itself affords. I have in many former reports shown . . . . . the injury to workpeople who are not employed on piece-work, but receive weekly wages." Leonard Horner in "Reports of Insp. of Fact." 30th April, 1859, pp. 8, 9.)

although the one form may be more favourable to the development of capitalist production than the other.

Let the ordinary working day contain 12 hours of which 6 are paid, 6 unpaid. Let its value-product be 6 shillings, that of one hour's labour therefore 6d. Let us suppose that, as the result of experience, a labourer who works with the average amount of intensity and skill, who, therefore, gives in fact only the time socially necessary to the production of an article, supplies in 12 hours 24 pieces, either distinct products or measurable parts of a continous whole. Then the value of these 24 pieces, after subtraction of the portion of constant capital contained in them, is 6 shillings, and the value of a single piece 3d. The labourer receives 1½d. per piece, and thus earns in 12 hours 3 shillings. Just as, with time-wages, it does not matter whether we assume that the labourer works 6 hours for himself and 6 hours for the capitalist, or half of every hour for himself, and the other half for the capitalist, so here it does not matter whether we say that each individual piece is half paid, and half unpaid for, or that the price of 12 pieces is the equivalent only of the value of the labour-power, whilst in the other 12 pieces surplus-value is incorporated.

The form of piece-wages is just as irrational as that of time-wages. Whilst in our example two pieces of a commodity, after subtraction of the value of the means of production consumed in them, are worth 6d as being the product of one hour, the labourer receives for them a price of 3d. Piece-wages do not, in fact, distinctly express any relation of value. It is not, therefore, a question of measuring the value of the piece by the working time incorporated in it, but on the contrary of measuring the working-time the labourer has expended, by the number of pieces he has produced. In time-wages the labour is measured by its immediate duration, in piece-wages by the quantity of products in which the labour has embodied itself during a given time.[1] The price of labour-time itself is finally determined by the equation ; value of a day's labour = daily

[1] "Le salaire peut se mesurer de deux manières : ou sur la durée du travail, ou sur son produit." ("Abrégé élémentaire des principes de l'Economie Politique." Paris 1796, p. 32.) The author of this anonymous work : G. Garnier.

value of labour-power. Piece-wage is, therefore, only a modified form of time-wage.

Let us now consider a little more closely the characteristic peculiarities of piece-wages.

The quality of the labour is here controlled by the work itself, which must be of average perfection if the piece-price is to be paid in full. Piece-wages become, from this point of view, the most fruitful source of reductions of wages and capitalistic cheating.

They furnish to the capitalist an exact measure for the intensity of labour. Only the working-time which is embodied in a quantum of commodities determined beforehand and experimentally fixed, counts as socially necessary working time, and is paid as such. In the larger workshops of the London tailors, therefore, a certain piece of work, a waistcoat *e.g.*, is called an hour, or half an hour, the hour at 6d. By practise it is known how much is the average product of one hour. With new fashions, repairs, etc., a contest arises between master and labourer, whether a particular piece of work is one hour, and so on, until here also experience decides. Similarly in the London furniture workshops, etc. If the labourer does not possess the average capacity, if he cannot in consequence supply a certain minimum of work per day, he is dismissed.[1]

Since the quality and intensity of the work are here controlled by the form of wage itself, superintendence of labour becomes in great part superfluous. Piece-wages therefore lay the foundation of the modern "domestic labour," described above, as well as of a hierarchically organised system of exploitation and oppression. The latter has two fundamental forms. On the one hand piece-wages facilitate the interposition of parasites between the capitalist and the wage-labourer, the "sub-letting of labour." The gain of these middle-men comes entirely from

[1] "So much weight of cotton is delivered to him [the spinner], and he has to return by a certain time, in lieu of it, a given weight of twist or yarn, of a certain degree of fineness, and he is paid so much per pound for all that he so returns. If his work is defective in quality, the penalty falls on him, if less in quantity than the minimum fixed for a given time, he is dismissed and an abler operative procured." (Ure l. c. p. 317.)

the difference between the labour price which the capitalist pays, and the part of that price which they actually allow to reach the labourer.[1] In England this system is characteristically called the "Sweating system." On the other hand piece-wage allows the capitalist to make a contract for so much per piece with the head labourer—in manufactures with the chief of some group, in mines with the extractor of the coal, in the factory with the actual machine-worker—at a price for which the head labourer himself undertakes the enlisting and payment of his assistant workpeople. The exploitation of the labourer by capital is here effected through the exploitation of the labourer by the labourer.[2]

Given piece-wage, it is naturally the personal interest of the labourer to strain his labour-power as intensely as possible; this enables the capitalist to raise more easily the normal degree of intensity of labour.[3] It is moreover now the personal interest of the labourer to lengthen the working day, since with it his daily or weekly wages rise.[4] This gradually brings

[1] "It is when work passes through several hands, each of which is to take its share of profits, while only the last does the work, that the pay which reaches the workwoman is miserably disproportioned." (Child. Emp. Com. II. Report, p. lxx, n. 424.)

[2] Even Watts, the apologetic, remarks: "It would be a great improvement to the system of piece-work, if all the men employed on a job were partners in the contract, each according to his abilities, instead of one man being interested in overworking his fellows for his own benefit." (l. c. p. 53.) On the vileness of this system, cf. Child. Emp. Com. Rep. III. p. 66, n. 22, p. 11, n. 124, p. xi. n. 13, 53, 59, etc.

[3] This spontaneous result is often artificially helped along, *e.g.*, in the Engineering Trade of London, a customary trick is "the selecting of a man who possesses superior physical strength and quickness, as the principal of several workmen, and paying him an additional rate, by the quarter or otherwise, with the understanding that he is to exert himself to the utmost to induce the others, who are only paid the ordinary wages, to keep up to him. . . Without any comment this will go far to explain many of the complaints of stinting the action, superior skill, and working-power, made by the employers against the men" (in Trades-Unions. Dunning, l. c. pp. 22, 23). As the author is himself a labourer and secretary of a Trade's Union, this might be taken for exaggeration. But the reader may compare the "highly respectable" Cyclopædia of Agriculture of J. Ch. Morton, Art. "Labourer," where this method is recommended to the farmers as an approved one.

[4] "All those who are paid by piece-work . . . profit by the transgression of the legal limits of work. This observation as to the willingness to work overtime is especially applicable to the women employed as weavers and reelers." (Rept. of Insp. of Fact, 30th April, 1858, p. 9). "This system (piece-work), so advantageous to the employer . . . tends directly to encourage the young potter greatly to overwork himself during the four or five years during which he is employed in the piece-work system, but at low wages . . . This is . . . another great cause to which the bad constitutions of the potters are to be attributed." (Child. Empl. Com. I. Rept., p. xiii.)

on a reaction like that already described in time-wages, without reckoning that the prolongation of the working day, even if the piece-wage remains constant, includes of necessity a fall in the price of the labour.

In time-wages, with few exceptions, the same wage holds for the same kind of work, whilst in piece-wages, though the price of the working time is measured by a certain quantity of product, the day's or week's wage will vary with the individual differences of the labourers, of whom one supplies in a given time the minimum of product only, another the average, a third more than the average. With regard to actual receipts there is, therefore, great variety according to the different skill, strength, energy, staying-power, etc., of the individual labourers.[1] Of course this does not alter the general relations between capital and wage-labour. First, the individual differences balance one another in the workshop as a whole, which thus supplies in a given working-time the average product, and the total wages paid will be the average wages of that particular branch of industry. Second, the proportion between wages and surplus-value remains unaltered, since the mass of surplus-labour supplied by each particular labourer corresponds with the wage received by him. But the wider scope that piece-wage gives to individuality, tends to develop on the one hand that individuality, and with it the sense of liberty, independence, and self-control of the labourers, on the other, their competition one with another. Piece-work has, therefore, a tendency, while raising individual wages above the average, to lower this average itself. But where a particular rate of piece-wage has for a long time been fixed by tradition, and its lowering, therefore, presented especial difficulties, the masters, in such exceptional cases, sometimes had recourse to its compulsory transformation into time-wages. Hence, *e.g.*, in 1860 a great strike among the ribbon-weavers

[1] "Where the work in any trade is paid for by the piece at so much per job . . . wages may very materially differ in amount . . . But in work by the day there is generally an uniform rate . . . recognized by both employer and employed as the standard of wages for the general run of workmen in the trade." (Dunning, l. c. p. 17.)

of Coventry.[1] Piece-wage is finally one of the chief supports of the hour-system described in the preceding chapter.[2]

From what has been shown so far, it follows that piece-wage is the form of wages most in harmony with the capitalist mode of production. Although by no means new—it figures side by side with time-wages officially in the French and English labour statutes of the 14th century—it only conquers a larger field for action during the period of Manufacture, properly so-called. In the stormy youth of Modern Industry, especially from 1797 to 1815, it served as a lever for the lengthening of the working day, and the lowering of wages. Very important materials for the fluctuation of wages during that period are to be found in the Blue-books: "Report and Evidence from the Select Committee on Petitions respecting the Corn Laws," (Parliamentary Session of 1813-14), and "Report from the Lords' Committee, on the state of the Growth, Commerce, and Consumption of Grain, and all Laws relating thereto," (Session of 1814-15). Here we find documentary evidence of the constant lowering of the price of

[1] "Le travail des Compagnons-artisans sera réglé à la journée ou à la pièce . . . Ces maîtres-artisans savent à peu près combien d'ouvrage un compagnon-artisan peut faire par jour dans chaque métier, et les payent souvent à proportion de l'ouvrage qu'ils font; ainsi ces compagnons travaillent autant qu'ils peuvent, pour leur propre intérêt, sans autre inspection." (Cantillon, Essai sur la Nature du Commerce en général, Amst. Ed., 1756, pp. 185 and 202. The first edition appeared in 1755.) Cantillon, from whom Quesnay, Sir James Steuart & A. Smith have largely drawn, already here represents piece-wage as simply a modified form of time-wage. The French edition of Cantillon professes in its title to be a translation from the English, but the English edition: "The analysis of Trade, Commerce, etc., by Philip Cantillon, late of the city of London, Merchant," is not only of later date (1759), but proves by its contents that it is a later and revised edition; *e.g.*, in the French edition, Hume is not yet mentioned, whilst in the English, on the other hand, Petty hardly figures any longer. The English edition is theoretically less important, but it contains numerous details referring specifically to English commerce, bullion trade, etc., that are wanting in the French text. The words on the title-page of the English edition, according to which the work is "Taken chiefly from the manuscript of a very ingenious gentleman, deceased, and adapted, etc.," seem, therefore, a pure fiction, very customary at that time.

[2] "Combien de fois n'avons-nous pas vu, dans certains ateliers, embaucher beaucoup plus d'ouvriers que ne le demandait le travail à mettre en main? Souvent, dans la prévision d'un travail aléatoire, quelquefois même imaginaire, on admet des ouvriers: comme on les paie aux pièces, on se dit qu'on ne court aucun risque, parceque toutes les pertes de temps seront à la charge des inoccupés." (H. Grégoir: "Les Typographes devant le Tribunal correctionnel de Bruxelles," Bruxelles, 1865, p. 9.)

labour from the beginning of the Anti-Jacobin War. In the weaving industry, *e.g.*, piece-wages had fallen so low that in spite of the very great lengthening of the working day, the daily wages were then lower than before. "The real earnings of the cotton weaver are now far less than they were; his superiority over the common labourer, which at first was very great, has now almost entirely ceased. Indeed . . . the difference in the wages of skilful and common labour is far less now than at any former period."[1] How little the increased intensity and extension of labour through piece-wages benefited the agricultural proletariat, the following passage borrowed from a work on the side of the landlords and farmers shows: "By far the greater part of agricultural operations is done by people, who are hired for the day or on piece-work. Their weekly wages are about 12s., and although it may be assumed that a man earns on piece-work under the greater stimulus to labour, 1s. or perhaps 2s. more than on weekly wages, yet it is found, on calculating his total income, that his loss of employment, during the year, outweighs this again . . . Further, it will generally be found that the wages of these men bear a certain proportion to the price of the necessary means of subsistence, so that a man with two children is able to bring up his family without recourse to parish relief."[2] Malthus at that time remarked with reference to the facts published by Parliament: "I confess that I see, with misgiving, the great extension of the practice of piece-wage. Really hard work during 12 or 14 hours of the day, or for any longer time, is too much for any human being."[3]

In the workshops under the Factory Acts, piece-wage becomes the general rule, because capital can there only increase the efficacy of the working day by intensifying labour.[4]

With the changing productiveness of labour the same quantum of product represents a varying working time. Therefore, piece-wage also varies, for it is the money expression of a

[1] Remarks on the Commercial Policy of Great Britain, London, 1815.

[2] A Defence of the Land-owners and Farmers of Great Britain, 1814, pp. 4, 5.

[3] Malthus, Inquiry into the Nature and Progress of Rent, Lond., 1815.

[4] "Those who are paid by piece-work . . . . constitute probably four-fifths of the workers in the factories." "Report of Insp. of Fact., 30th April, 1858."

determined working time. In our example above, 24 pieces were produced in 12 hours, whilst the value of the product of the 12 hours was 6s., the daily value of the labour-power 3s., the price of the labour-hour 3d., and the wage for one piece 1½d. In one piece half-an-hour's labour was absorbed. If the same working day now supplies, in consequence of the doubled productiveness of labour, 48 pieces instead of 24, and all other circumstances remain unchanged, then the piece-wage falls from 1½d. to ¾d., as every piece now only represents ¼, instead of ½ of a working hour. 24 by 1½d. = 3s., and in like manner 48 by ¾d. = 3s. In other words, piece-wage is lowered in the same proportion as the number of the pieces produced in the same time rises,[1] and therefore as the working time spent on the same piece falls. This change in piece-wage, so far purely nominal, leads to constant battles between capitalist and labour. Either because the capitalist uses it as a pretext for actually lowering the price of labour, or because increased productive power of labour is accompanied by an increased intensity of the same. Or because the labourer takes seriously the appearance of piece-wages, viz., that his product is paid for, and not his labour-power, and therefore revolts against a lowering of wages, unaccompanied by a lowering in the selling price of the commodity. "The operatives . . . . carefully watch the price of the raw material and the price of manufactured goods, and are thus enabled to form an accurate estimate of their master's profits." [2]

The capitalist rightly knocks on the head such pretensions

[1] "The productive power of his spinning-machine is accurately measured, and the rate of pay for work done with it decreases with, though not *as*, the increase of its productive power." (Ure, l. c., p. 317.) This last apologetic phrase Ure himself again cancels. The lengthening of the mule causes some increase of labour, he admits. The labour does therefore not diminish in the same ratio as its productivity increases. Further: "By this increase the productive power of the machine will be augmented one-fifth. When this event happens the spinner will not be paid at the same rate for work done as he was before, but as that rate will not be diminished in the ratio of one-fifth, the improvement will augment his money earnings for any given number of hours' work," but "the foregoing statement requires a certain modification. . . . . The spinner has to pay something additional for juvenile aid out of his additional sixpence, accompanied by displacing a portion of adults" (l. c., p. 321), which has in no way a tendency to raise wages.

[2] H. Fawcett: "The Economic Position of the British Labourer. Cambridge and London, 1865," p. 178.

as gross errors as to the nature of wage-labour.[1] He cries out against this usurping attempt to lay taxes on the advance of industry, and declares roundly that the productiveness of labour does not concern the labourer at all.[2]

CHAPTER XXII.

NATIONAL DIFFERENCES OF WAGES.

In the 17th chapter we were occupied with the manifold combinations which may bring about a change in magnitude of the value of labour-power—this magnitude being considered either absolutely or relatively, *i.e.*, as compared with surplus-value; whilst on the other hand, the quantum of the means of subsistence in which the price of labour is realised might again undergo fluctuations independent of, or different from, the changes of this price.[3] As has been already said, the simple translation of the value, or respectively of the price, of labour-power into the exoteric form of wages transforms all these laws into laws of the fluctuations of wages. That which appears in these fluctuations of wages within a single country as a series of varying combinations, may appear in different countries as contemporaneous difference of national wages. In

[1] In the *London Standard* of October 26, 1861, there is a report of proceedings of the firm of John Bright & Co., before the Rochdale magistrates "to prosecute for intimidation the agents of the Carpet Weavers Trades' Union. Bright's partners had introduced new machinery which would turn out 240 yards of carpet in the time and with the labour (!) previously required to produce 160 yards. The workmen had no claim whatever to share in the profits made by the investment of their employer's capital in mechanical improvements. Accordingly, Messrs. Bright proposed to lower the rate of pay from 1½d. per yard to 1d., leaving the earnings of the men exactly the same as before for the same labour. But there was a nominal reduction, of which the operatives, it is asserted, had not fair warning before hand."

[2] "Trades' Unions, in their desire to maintain wages, endeavour to share in the benefits of improved machinery. (*Quelle horreur!*) . . . . the demanding higher wages, because labour is abbreviated, is in other words the endeavour to establish a duty on mechanical improvements." ("On Combination of Trades, new ed., London, 1834," p. 42.)

[3] "It is not accurate to say that wages" (he deals here with their money expression) "are increased, because they purchase more of a cheaper article." (David Buchanan in his edition of Adam Smith's "Wealth," &c., 1814, Vol. I., p. 417. Note.)

the comparison of the wages in different nations, we must therefore take into account all the factors that determine changes in the amount of the value of labour-power; the price and the extent of the prime necessaries of life as naturally and historically developed, the cost of training the labourers, the part played by the labour of women and children, the productiveness of labour, its extensive and intensive magnitude. Even the most superficial comparison requires the reduction first of the average day-wage for the same trades, in different countries, to a uniform working day. After this reduction to the same terms of the day-wages, time-wage must again be translated into piece-wage, as the latter only can be a measure both of the productivity and the intensity of labour.

In every country there is a certain average intensity of labour, below which the labour for the production of a commodity requires more than the socially necessary time, and therefore does not reckon as labour of normal quality. Only a degree of intensity above the national average affects, in a given country, the measure of value by the mere duration of the working time. This is not the case on the universal market, whose integral parts are the individual countries. The average intensity of labour changes from country to country; here it is greater, there less. These national averages form a scale, whose unit of measure is the average unit of universal labour. The more intense national labour, therefore, as compared with the less intense, produces in the same time more value, which expresses itself in more money.

But the law of value in its international application is yet more modified by this, that on the world-market the more productive national labour reckons also as the more intense, so long as the more productive nation is not compelled by competition to lower the selling price of its commodities to the level of their value.

In proportion as capitalist production is developed in a country, in the same proportion do the national intensity and productivity of labour there rise above the international level.[1]

[1] We shall inquire, in another place, what circumstances in relation to productivity may modify this law for individual branches of industry.

The different quantities of commodities of the same kind, produced in different countries in the same working time, have, therefore, unequal international values, which are expressed in different prices, *i.e.*, in sums of money varying according to international values. The relative value of money will, therefore, be less in the nation with more developed capitalist mode of production than in the nation with less developed. It follows, then, that the nominal wages, the equivalent of labour-power expressed in money, will also be higher in the first nation than in the second; which does not at all prove that this holds also for the real wages, *i.e.*, for the means of subsistence placed at the disposal of the labourer.

But even apart from these relative differences of the value of money in different countries, it will be found, frequently, that the daily or weekly, &c., wage in the first nation is higher than in the second, whilst the relative price of labour, *i.e.*, the price of labour as compared both with surplus-value and with the value of the product, stands higher in the second than in the first.[1]

J. W. Cowell, member of the Factory Commission of 1833, after careful investigation of the spinning trade, came to the conclusion that, "in England wages are virtually lower to the capitalist, though higher to the operative than on the Continent of Europe." (Ure, p. 314.) The English Factory Inspector, Alexander Redgrave, in his Report of Oct. 31st, 1866, proves by comparative statistics with Continental states,

[1] James Anderson remarks in his polemic against Adam Smith: "It deserves, likewise, to be remarked, that although the apparent price of labour is usually lower in poor countries, where the produce of the soil, and grain in general, is cheap; yet it is in fact for the most part really higher than in other countries. For it is not the wages that is given to the labourer per day that constitutes the real price of labour, although it is its apparent price. The real price is that which a certain quantity of work performed actually costs the employer; and considered in this light, labour is in almost all cases cheaper in rich countries than in those that are poorer, although the price of grain, and other provisions, is usually much lower in the last than in the first . . . Labour estimated by the day, is much lower in Scotland than in England . . . Labour by the piece is generally cheaper in England." (James Anderson, Observations on the means of exciting a spirit of National Industry, &c., Edin. 1777, pp. 350, 351). On the contrary, lowness of wages produces, in its turn, dearness of labour. "Labour being dearer in Ireland than it is in England . . . because the wages are so much lower." (N. 2079 in Royal Commission on Railways, Minutes, 1867.

that in spite of lower wages and much longer working-time, Continental labour is, in proportion to the product, dearer than English. An English manager of a cotton factory in Oldenburg, declares that the working-time there lasted from 5.30. a.m. to 8. p.m., Saturdays included, and that the workpeople there, when under English overlookers, did not supply during this time quite so much product as the English in 10 hours, but under German overlookers much less. Wages are much lower than in England, in many cases 50%, but the number of hands in proportion to the machinery was much greater, in certain departments in the proportion of 5 : 3.—Mr. Redgrave gives very full details as to the Russian cotton factories. The data were given him by an English manager until recently employed there. On this Russian soil, so fruitful of all infamies, the old horrors of the early days of English factories are in full swing. The managers are, of course, English, as the native Russian capitalist is of no use in factory business. Despite all over-work, continued day and night, despite the most shameful under-payment of the workpeople, Russian manufacture manages to vegetate only by prohibition of foreign competition. I give, in conclusion, a comparative table of Mr. Redgrave's, on the average number of spindles per factory and per spinner in the different countries of Europe. He, himself, remarks that he had collected these figures a few years ago, and that since that time the size of the factories and the number of spindles per labourer in England has increased. He supposes, however, an approximately equal progress in the Continental countries mentioned, so that the numbers given would still have their value for purposes of comparison.

AVERAGE NUMBER OF SPINDLES PER FACTORY.

England, average of spindles per factory	12,600
France, „ „ „	1,500
Prussia, „ „ „	1,500
Belgium, „ „ „	4,000
Saxony, „ „ „	4,500
Austria, „ „ „	7,000
Switzerland, „ „ „	8,000

AVERAGE NUMBER OF PERSONS EMPLOYED TO SPINDLES.

France, one	person to	14 spindles
Russia,	„	28 „
Prussia,	„	37 „
Bavaria,	„	46 „
Austria,	„	49 „
Belgium,	„	50 „
Saxony,	„	50 „
Switzerland,	„	55 „
Smaller States of Germany,		55 „
Great Britain,	„	74 „

"This comparison," says Mr. Redgrave, "is yet more unfavourable to Great Britain, inasmuch as there is so large a number of factories in which weaving by power is carried on in conjunction with spinning [whilst in the table the weavers are not deducted], and the factories abroad are chiefly spinning factories; if it were possible to compare like with like, strictly, I could find many cotton spinning factories in my district in which mules containing 2,200 spindles are minded by one man (the "minder") and two assistants only, turning off daily 220lbs. of yarn, measuring 400 miles in length." (Reports of Insp. of Fact., 31st Oct., 1866, p. 31-33, passim.)

It is well known that in Eastern Europe as well as in Asia, English companies have undertaken the construction of railways, and have, in making them, employed side by side with the native labourers, a certain number of English workingmen. Compelled by practical necessity, they thus have had to take into account the national difference in the intensity of labour, but this has brought them no loss. Their experience shows that even if the height of wages corresponds more or less with the average intensity of labour, the relative price of labour varies generally in the inverse direction.

In an "Essay on the Rate of Wages,"[1] one of his first economic writings, H. Carey tries to prove that the wages of the different nations are directly proportional to the degree of

[1] "Essay on the Rate of Wages, with an Examination of the Causes of the Differences in the Conditions of the Labouring Population throughout the World," Philadelphia, 1835.

productiveness of the national working days, in order to draw from this international relation, the conclusion that wages everywhere rise and fall in proportion to the productiveness of labour. The whole of our analysis of the production of surplus-value shows the absurdity of this conclusion, even if Carey himself had proved his premises, instead of, after his usual uncritical and superficial fashion, shuffling to and fro a confused mass of statistical materials. The best of it is that he does not assert that things actually are as they ought to be according to his theory. For State intervention has falsified the natural economic relations. The different national wages must be reckoned, therefore, as if that part of each that goes to the State in the form of taxes, came to the labourer himself. Ought not Mr. Carey to consider further whether those "State expenses" are not the "natural" fruits of capitalistic development? The reasoning is quite worthy of the man who first declared the relations of capitalist production to be eternal laws of nature and reason, whose free, harmonious working is only disturbed by the intervention of the State, in order afterwards to discover that the diabolical influence of England on the world-market (an influence which, it appears, does not spring from the natural laws of capitalist production) necessitates State intervention, *i.e.*, the protection of those laws of nature and reason by the State, *alias* the System of Protection. He discovered further, that the theorems of Ricardo and others, in which existing social antagonisms and contradictions are formulated, are not the ideal product of the real economic movement, but on the contrary, that the real antagonisms of capitalist production in England and elsewhere are the result of the theories of Ricardo and others! Finally, he discovered that it is, in the last resort, commerce that destroys the inborn beauties and harmonies of the capitalist mode of production. A step further, and he will, perhaps, discover that the one evil in capitalist production is capital itself. Only a man with such atrocious want of the critical faculty and such spurious erudition deserved, in spite of his Protectionist heresy, to become the secret source of the harmonious wisdom of a Bastiat, and of all the other Free Trade optimists of to-day.

PART VII.

THE ACCUMULATION OF CAPITAL.

THE conversion of a sum of money into means of production and labour-power, is the first step taken by the quantum of value that is going to function as capital. This conversion takes place in the market, within the sphere of circulation. The second step, the process of production, is complete so soon as the means of production have been converted into commodities whose value exceeds that of their component parts, and, therefore, contains the capital originally advanced, plus a surplus-value. These commodities must then be thrown into circulation. They must be sold, their value realised in money, this money afresh converted into capital, and so over and over again. This circular movement, in which the same phases are continually gone through in succession, forms the circulation of capital.

The first condition of accumulation is that the capitalist must have contrived to sell his commodities, and to reconvert into capital the greater part of the money so received. In the following pages we shall assume that capital circulates in its normal way. The detailed analysis of the process will be found in Book II.

The capitalist who produces surplus-value—*i.e.*, who extracts unpaid labour directly from the labourers, and fixes it in commodities, is, indeed, the first appropriator, but by no means the ultimate owner, of this surplus-value. He has to share it with capitalists, with landowners, &c., who fulfil other functions in the complex of social production. Surplus-value, therefore, splits up into various parts. Its fragments fall to various cate-

gories of persons, and take various forms, independent the one of the other, such as profit, interest, merchants' profit, rent, &c. It is only in Book III. that we can take in hand these modified forms of surplus-value.

On the one hand, then, we assume that the Capitalist sells at their value the commodities he has produced, without concerning ourselves either about the new forms that capital assumes while in the sphere of circulation, or about the concrete conditions of reproduction hidden under these forms. On the other hand, we treat the capitalist producer as owner of the entire surplus-value, or, better perhaps, as the representative of all the sharers with him in the booty. We, therefore, first of all consider accumulation from an abstract point of view—*i.e.*, as a mere phase in the actual process of production.

So far as accumulation takes place, the capitalist must have succeeded in selling his commodities, and in reconverting the sale-money into capital. Moreover, the breaking-up of surplus-value into fragments neither alters its nature nor the conditions under which it becomes an element of accumulation. Whatever be the proportion of surplus-value which the industrial capitalist retains for himself, or yields up to others, he is the one who, in the first instance, appropriates it. We, therefore, assume no more than what actually takes place. On the other hand, the simple fundamental form of the process of accumulation is obscured by the incident of the circulation which brings it about, and by the splitting up of surplus-value. An exact analysis of the process, therefore, demands that we should, for a time, disregard all phenomena that hide the play of its inner mechanism.

CHAPTER XXIII.

SIMPLE REPRODUCTION.

WHATEVER the form of the process of production in a society, it must be a continuous process, must continue to go periodically through the same phases. A society can no more cease

to produce than it can cease to consume. When viewed, therefore, as a connected whole, and as flowing on with incessant renewal, every social process of production is, at the same time, a process of reproduction.

The conditions of production are also those of reproduction. No society can go on producing, in other words, no society can reproduce, unless it constantly reconverts a part of its products into means of production, or elements of fresh products. All other circumstances remaining the same, the only mode by which it can reproduce its wealth, and maintain it at one level, is by replacing the means of production—*i.e.*, the instruments of labour, the raw material, and the auxiliary substances consumed in the course of the year—by an equal quantity of the same kind of articles; these must be separated from the mass of the yearly products, and thrown afresh into the process of production. Hence, a definite portion of each year's product belongs to the domain of production. Destined for productive consumption from the very first, this portion exists, for the most part, in the shape of articles totally unfitted for individual consumption.

If production be capitalistic in form, so, too, will be reproduction. Just as in the former the labour-process figures but as a means towards the self-expansion of capital, so in the latter it figures but as a means of reproducing as capital—*i.e.*, as self-expanding value,—the value advanced. It is only because his money constantly functions as capital that the economical guise of a capitalist attaches to a man. If, for instance, a sum of £100 has this year been converted into capital, and produced a surplus-value of £20, it must continue during next year, and subsequent years, to repeat the same operation. As a periodic increment of the capital advanced, or periodic fruit of capital in process, surplus-value acquires the form of a revenue flowing out of capital.[1]

[1] "Mais ces riches, qui consomment les produits du travail des autres, ne peuvent les obtenir que par des échanges [purchases of commodities]. S'ils donnent cependant leur richesse acquise et accumulée en retour contre ces produits nouveaux qui sont l'objet de leur fantaisie, ils semblent exposés à épuiser bientôt leur fonds de réserve; ils ne travaillent point, avons-nous dit, et ils ne peuvent même travailler; on croirait donc que chaque jour doit voir diminuer leurs vieilles richesses, et que lors-

If this revenue serve the capitalist only as a fund to provide for his consumption, and be spent as periodically as it is gained, — then, cæteris paribus, simple reproduction will take place. And although this reproduction is a mere repetition of the process of production on the old scale, yet this mere repetition, or continuity, gives a new character to the process, or, rather, causes the disappearance of some apparent characteristics which it possessed as an isolated discontinuous process.

The purchase of labour-power for a fixed period is the prelude to the process of production ; and this prelude is constantly repeated when the stipulated term comes to an end, when a definite period of production, such as a week or a month, has elapsed. But the labourer is not paid until after he has expended his labour-power, and realised in commodities not only its value, but surplus-value. He has, therefore, produced not only surplus-value, which we for the present regard as a fund to meet the private consumption of the capitalist, but he has also produced, before it flows back to him in the shape of wages, the fund out of which he himself is paid, the variable capital ; and his employment lasts only so long as he continues to reproduce this fund. Hence, that formula of the economists, referred to in Chapter XVIII., which represents wages as a share in the product itself.[1] What flows back to the labourer in the shape of wages is a portion of the product that is continuously reproduced by him. The capitalist, it is true, pays him in money, but this money is merely the transmuted form of the product of his labour. While he is converting a portion of the means of production into products, a portion of his former product is being turned into money. It is his labour of

qu'il ne leur en restera plus, rien ne sera offert en échange aux ouvriers qui travaillent exclusivement pour eux. . . . Mais dans l'ordre social, la richesse a acquis la propriété de se reproduire par le travail d'autrui, et sans que son propriétaire y concoure. La richesse, comme le travail, et par le travail, donne un fruit annuel qui peut être détruit chaque année sans que le riche en devienne plus pauvre. Ce fruit est le *revenu* qui naît du *capital*." (Sismondi: Nouv. Princ. d'Econ. Pol. Paris, 1819. t. I. pp. 81-82.)

[1] "Wages as well as profits are to be considered, each of them, as really a portion of the finished product." (Ramsay, l.c., p. 142.) "The share of the product which comes to the labourer in the form of wages." (J. Mill, Elements, &c. Translated by Parissot. Paris, 1823. p. 34.)

last week, or of last year, that pays for his labour-power this week or this year. The illusion begotten by the intervention of money vanishes immediately, if, instead of taking a single capitalist and a single labourer, we take the class of capitalists and the class of labourers as a whole. The capitalist class is constantly giving to the labouring class order-notes, in the form of money, on a portion of the commodities produced by the latter and appropriated by the former. The labourers give these order-notes back just as constantly to the capitalist class, and in this way get their share of their own product. The transaction is veiled by the commodity-form of the product and the money-form of the commodity.

Variable capital is therefore only a particular historical form of appearance of the fund for providing the necessaries of life, or the labour-fund which the labourer requires for the maintenance of himself and family, and which, whatever be the system of social production, he must himself produce and reproduce. If the labour-fund constantly flows to him in the form of money that pays for his labour, it is because the product he has created moves constantly away from him in the form of capital. But all this does not alter the fact, that it is the labourer's own labour, realised in a product, which is advanced to him by the capitalist.[1] Let us take a peasant liable to do compulsory service for his lord. He works on his own land, with his own means of production, for, say, 3 days a week. The 3 other days he does forced work on the lord's domain. He constantly reproduces his own labour-fund, which never, in his case, takes the form of a money payment for his labour, advanced by another person. But in return, his unpaid forced labour for the lord, on its side, never acquires the character of voluntary paid labour. If one fine morning the lord appropriates to himself the land, the cattle, the seed, in a word, the means of production of this peasant, the latter will thenceforth be obliged to sell his labour-power to the lord. He will, cæteris paribus, labour 6 days a week as before, 3 for himself, 3 for

[1] "When capital is employed in advancing to the workman his wages, it adds nothing to the funds for the maintenance of labour." (Cazenove in note to his edition of Malthus, Definitions in Pol. Econ. London, 1853, p. 22.)

his lord, who thenceforth becomes a wages-paying capitalist. As before, he will use up the means of production as means of production, and transfer their value to the product. As before, a definite portion of the product will be devoted to reproduction. But from the moment that the forced labour is changed into wage-labour, from that moment the labour-fund, which the peasant himself continues as before to produce and reproduce, takes the form of a capital advanced in the form of wages by the lord. The bourgeois economist whose narrow mind is unable to separate the form of appearance from the thing that appears, shuts his eyes to the fact, that it is but here and there on the face of the earth, that even now-a-days the labour-fund crops up in the form of capital.[1]

Variable capital, it is true, only then loses its character of a value advanced out of the capitalist's funds,[2] when we view the process of capitalist production in the flow of its constant renewal. But that process must have had a beginning of some kind. From our present stand-point it therefore seems likely that the capitalist, once upon a time, became possessed of money, by some accumulation that took place independently of the unpaid labour of others, and that this was, therefore, how he was enabled to frequent the market as a buyer of labour-power. However this may be, the mere continuity of the process, the simple reproduction, brings about some other wonderful changes, which affect not only the variable, but the total capital.

If a capital of £1000 beget yearly a surplus-value of £200, and if this surplus-value be consumed every year, it is clear that at the end of 5 years the surplus-value consumed will amount to $5 \times$ £200 or the £1000 originally advanced. If only a part, say one half, were consumed, the same result would follow at the end of 10 years, since $10 \times$ £100 = £1000.

[1] "The wages of labour are advanced by capitalists in the case of less than one fourth of the labourers of the earth." (Rich. Jones: Textbook of Lectures on the Pol. Econ. of Nations. Hertford, 1852, p. 16.)

[2] "Though the manufacturer" (*i.e.* the labourer) "has his wages advanced to him by his master, he in reality costs him no expense, the value of these wages being generally reserved, together with a profit, in the improved value of the subject upon which his labour is bestowed." (A. Smith l. c. Book II. ch. III. p. 311.)

General Rule : The value of the capital advanced divided by the surplus-value annually consumed, gives the number of years, or reproduction periods, at the expiration of which the capital originally advanced has been consumed by the capitalist and has disappeared. The capitalist thinks, that he is consuming the produce of the unpaid labour of others, *i.e.*, the surplus-value, and is keeping intact his original capital; but what he thinks cannot alter facts. After the lapse of a certain number of years, the capital value he then possesses is equal to the sum total of the surplus-value appropriated by him during those years, and the total value he has consumed is equal to that of his original capital. It is true, he has in hand a capital whose amount has not changed, and of which a part, *viz.*, the buildings, machinery, &c., were already there when the work of his business began. But what we have to do with here, is not the material elements, but the value, of that capital. When a person gets through all his property, by taking upon himself debts equal to the value of that property, it is clear that his property represents nothing but the sum total of his debts. And so it is with the capitalist; when he has consumed the equivalent of his original capital, the value of his present capital represents nothing but the total amount of the surplus-value appropriated by him without payment. Not a single atom of the value of his old capital continues to exist.

Apart then from all accumulation, the mere continuity of the process of production, in other words simple reproduction, sooner or later, and of necessity, converts every capital into accumulated capital, or capitalised surplus-value. Even if that capital was originally acquired by the personal labour of its employer, it sooner or later becomes value appropriated without an equivalent, the unpaid labour of others materialised either in money or in some other object. We saw in chapter IV. that in order to convert money into capital something more is required than the production and circulation of commodities. We saw that on the one side the possessor of value or money, on the other, the possessor of the value-creating substance; on the one side, the possessor of the means of production and subsistence, on the other, the possessor of nothing but labour-

power, must confront one another as buyer and seller. The separation of labour from its product, of subjective labour-power from the objective conditions of labour, was therefore the real foundation in fact, and the starting point of capitalist production.

But that which at first was but a starting point, becomes, by the mere continuity of the process, by simple reproduction, the peculiar result, constantly renewed and perpetuated, of capitalist production. On the one hand, the process of production incessantly converts material wealth into capital, into means of creating more wealth and means of enjoyment for the capitalist. On the other hand the labourer, on quitting the process, is what he was on entering it, a source of wealth, but devoid of all means of making that wealth his own. Since, before entering on the process, his own labour has already been alienated from himself by the sale of his labour-power, has been appropriated by the capitalist and incorporated with capital, it must, during the process, be realised in a product that does not belong to him. Since the process of production is also the process by which the capitalist consumes labour-power, the product of the labourer is incessantly converted, not only into commodities, but into capital, into value that sucks up the value-creating power, into means of subsistence that buy the person of the labourer, into means of production that command the producers.[1] The labourer therefore constantly produces material, objective wealth, but in the form of capital, of an alien power that dominates and exploits him; and the capitalist as constantly produces labour-power, but in the form of a subjective source of wealth, separated from the objects in and by which it can alone be realised; in short he produces the labourer, but as a wage-labourer.[2] This incessant

[1] "This is a remarkably peculiar property of productive labour. Whatever is productively consumed is capital, and it becomes capital by consumption." (James Mill l. c. p. 242.) James Mill, however, never got on the track of this "remarkably peculiar property."

[2] "It is true indeed, that the first introducing a manufacture employes many poor, but they cease not to be so, and the continuance of it makes many." (Reasons for a limited Exportation of Wool. London, 1677, p. 19.) "The farmer now absurdly asserts, that he keeps the poor. They are indeed kept in misery." (Reasons for the late increase of the Poor Rates: or a comparative view of the prices of labour and provisions. London, 1777, p. 37.)

reproduction, this perpetuation of the labourer, is the sine quâ non of capitalist production.

The labourer consumes in a twofold way. While producing he consumes by his labour the means of production, and converts them into products with a higher value than that of the capital advanced. This is his productive consumption. It is at the same time consumption of his labour-power by the capitalist who bought it. On the other hand, the labourer turns the money paid to him for his labour-power, into means of subsistence: this is his individual consumption. The labourer's productive consumption, and his individual consumption, are therefore totally distinct. In the former, he acts as the motive power of capital, and belongs to the capitalist. In the latter, he belongs to himself, and performs his necessary vital functions outside the process of production. The result of the one is, that the capitalist lives; of the other, that the labourer lives.

When treating of the working-day, we saw that the labourer is often compelled to make his individual consumption a mere incident of production. In such a case, he supplies himself with necessaries in order to maintain his labour-power, just as coal and water are supplied to the steam engine and oil to the wheel. His means of consumption, in that case, are the mere means of consumption required by a means of production; his individual consumption is directly productive consumption. This, however, appears to be an abuse not essentially appertaining to capitalist production.[1]

The matter takes quite another aspect, when we contemplate, not the single capitalist, and the single labourer, but the capitalist class and the labouring class, not an isolated process of production, but capitalist production in full swing, and on its actual social scale. By converting part of his capital into labour-power, the capitalist augments the value of his entire capital. He kills two birds with one stone. He profits, not only by what he receives from, but by what he gives to, the labourer. The capital given in exchange for labour-power is

[1] Rossi would not declaim so emphatically against this, had he really penetrated the secret of "productive consumption."

converted into necessaries, by the consumption of which the muscles, nerves, bones, and brains of existing labourers are reproduced, and new labourers are begotten. Within the limits of what is strictly necessary, the individual consumption of the working class is, therefore, the reconversion of the means of subsistence given by capital in exchange for labour-power, into fresh labour-power at the disposal of capital for exploitation. It is the production and reproduction of that means of production so indispensible to the capitalist: the labourer himself. The individual consumption of the labourer, whether it proceed within the workshop or outside it, whether it be part of the process of production or not, forms therefore a factor of the production and reproduction of capital; just as cleaning machinery does, whether it be done while the machinery is working or while it is standing. The fact that the labourer consumes his means of subsistence for his own purposes, and not to please the capitalist, has no bearing on the matter. The consumption of food by a beast of burden is none the less a necessary factor in the process of production, because the beast enjoys what it eats. The maintenance and reproduction of the working-class is, and must ever be, a necessary condition to the reproduction of capital. But the capitalist may safely leave its fulfilment to the labourer's instincts of self-preservation and of propagation. All the capitalist cares for, is to reduce the labourer's individual consumption as far as possible to what is strictly necessary, and he is far away from imitating those brutal South Americans, who force their labourers to take the more substantial, rather than the less substantial, kind of food.[1]

Hence both the capitalist and his ideological representative, the political economist, consider that part alone of the labourer's individual consumption to be productive, which is requisite for the perpetuation of the class, and which therefore must take

[1] "The labourers in the mines of S. America, whose daily task (the heaviest perhaps in the world) consists in bringing to the surface on their shoulders a load of metal weighing from 180 to 200 pounds, from a depth of 450 feet, live on bread and beans only; they themselves would prefer the bread alone for food, but their masters, who have found out that the men cannot work so hard on bread, treat them like horses, and compel them to eat beans; beans, however, are relatively much richer in bone-earth (phosphate of lime) than is bread" (Liebig, l. c., vol. 1, p. 194, note).

place in order that the capitalist may have labour-power to consume; what the labourer consumes for his own pleasure beyond that part, is unproductive consumption.[1] If the accumulation of capital were to cause a rise of wages and an increase in the labourer's consumption, unaccompanied by increase in the consumption of labour-power by capital, the additional capital would be consumed unproductively.[2] In reality, the individual consumption of the labourer is unproductive as regards himself, for it reproduces nothing but the needy individual; it is productive to the capitalist and to the State, since it is the production of the power that creates their wealth.[3]

From a social point of view, therefore, the working-class, even when not directly engaged in the labour-process, is just as much an appendage of capital as the ordinary instruments of labour. Even its individual consumption is, within certain limits, a mere factor in the process of production. That process, however, takes good care to prevent these self-conscious instruments from leaving it in the lurch, for it removes their product, as fast as it is made, from their pole to the opposite pole of capital. Individual consumption provides, on the one hand, the means for their maintenance and reproduction: on the other hand, it secures by the annihilation of the necessaries of life, the continued reappearance of the workman in the labour-market. The Roman slave was held by fetters: the wage-labourer is bound to his owner by invisible threads. The appearance of independence is kept up by means of a constant change of employers, and by the fictio juris of a contract.

In former times, capital resorted to legislation, whenever necessary, to enforce its proprietary rights over the free labourer. For instance, down to 1815, the emigration of

[1] James Mill, l. c., p. 238.

[2] "If the price of labour should rise so high that, notwithstanding the increase of capital, no more could be employed, I should say that such increase of capital would be still unproductively consumed." (Ricardo, l. c., p. 163.)

[3] "The only productive consumption, properly so-called, is the consumption or destruction of wealth" (he alludes to the means of production) "by capitalists with a view to re roduction . . . . The workman . . . . is a productive consumer to the person who employs him, and to the State, but not, strictly speaking, to himself." (Malthus' Definitions, &c., p. 30.)

mechanics employed in machine making was, in England, forbidden, under grievous pains and penalties.

The reproduction of the working class carries with it the accumulation of skill, that is handed down from one generation to another.[1] To what extent the capitalist reckons the existence of such a skilled class among the factors of production that belong to him by right, and to what extent he actually regards it as the reality of his variable capital, is seen so soon as a crisis threatens him with its loss. In consequence of the civil war in the United States and of the accompanying cotton famine, the majority of the cotton operatives in Lancashire were, as is well known, thrown out of work. Both from the working-class itself, and from other ranks of society, there arose a cry for State aid, or for voluntary national subscriptions, in order to enable the "superfluous" hands to emigrate to the colonies or to the United States. Thereupon, the "Times" published on the 24th March, 1863, a letter from Edmund Potter, a former president of the Manchester Chamber of Commerce. This letter was rightly called in the House of Commons, the manufacturers' manifesto.[2] We cull here a few characteristic passages, in which the proprietary rights of capital over labour-power are unblushingly asserted.

"He" (the man out of work) "may be told the supply of cotton-workers is too large . . . . and . . . . must . . . . in fact be reduced by a third, perhaps, and that then there will be a healthy demand for the remaining two-thirds . . . . Public opinion . . . . urges emigration . . . . The master cannot willingly see his labour supply being removed; he may think, and perhaps justly, that it is both wrong and unsound . . . . But if the public funds are to be devoted to assist emigration, he has a right to be heard, and perhaps to protest." Mr. Potter then shows how useful the cotton trade is, how the

[1] "The only thing, of which one can say, that it is stored up and prepared beforehand, is the skill of the labourer . . . . The accumulation and storage of skilled labour, that most important operation, is, as regards the great mass of labourers, accomplished without any capital whatever." (Tho. Hodgskin: Labour Defended, &c., p. 13.)

[2] "That letter might be looked upon as the manifesto of the manufacturers." (Ferrand: Motion on the Cotton Famine, H. o. C., 27th April, 1863.)

"trade has undoubtedly drawn the surplus-population from Ireland and from the agricultural districts," how immense is its extent, how in the year 1860 it yielded $\frac{5}{13}$ths of the total English exports, how, after a few years, it will again expand by the extension of the market, particularly of the Indian market, and by calling forth a plentiful supply of cotton at 6d. per lb. He then continues: "Some time . . . , one, two, or three years, it may be, will produce the quantity . . . . The question I would put then is this—Is the trade worth retaining? Is it worth while to keep the machinery (he means the living labour machines) in order, and is it not the greatest folly to think of parting with that? I think it is. I allow that the workers are not a property, not the property of Lancashire and the masters; but they are the strength of both; they are the mental and trained power which cannot be replaced for a generation; the mere machinery which they work might much of it be beneficially replaced, nay improved, in a twelvemonth.[1] Encourage or allow (!) the working-power to emigrate, and what of the capitalist? . . . . Take away the cream of the workers, and fixed capital will depreciate in a great degree, and the floating will not subject itself to a struggle with the short supply of inferior labour . . . . We are told the workers wish it" (emigration). "Very natural it is that they should do so . . . . Reduce, compress the cotton trade by taking away its working power and reducing their wages expenditure, say one-fifth, or five millions, and what then would happen to the class above, the small shopkeepers; and what of the rents, the cottage rents . . . . Trace out the effects upward to the small farmer, the better householder, and . . . .

[1] It will not be forgotten that this same capital sings quite another song, under ordinary circumstances, when there is a question of reducing wages. Then the masters exclaim with one voice: "The factory operatives should keep in wholesome remembrance the fact that theirs is really a low species of skilled labour; and that there is none which is more easily acquired, or of its quality more amply remunerated, or which, by a short training of the least expert, can be more quickly, as well as abundantly, acquired . . . . The master's machinery "(which we now learn can be replaced with advantage in 12 months) "really plays a far more important part in the business of production than the labour and skill of the operative" (who cannot now be replaced under 30 years), "which six months' education can teach, and a common labourer can learn." (See ante, p. 423.)

the landowner, and say if there could be any suggestion more suicidal to all classes of the country than by enfeebling a nation by exporting the best of its manufacturing population, and destroying the value of some of its most productive capital and enrichment . . . . I advise a loan (of five or six millions sterling), ... extending it may be over two or three years, administered by special commissioners added to the Boards of Guardians in the cotton districts, under special legislative regulations, enforcing some occupation or labour, as a means of keeping up at least the moral standard of the recipients of the loan . . . . can anything be worse for landowners or masters than parting with the best of the workers, and demoralising and disappointing the rest by an extended depletive emigration, a depletion of capital and value in an entire province?"

Potter, the chosen mouthpiece of the manufacturers, distinguishes two sorts of "machinery," each of which belongs to the capitalist, and of which one stands in his factory, the other at night-time and on Sundays is housed outside the factory, in cottages. The one is inanimate, the other living. The inanimate machinery not only wears out and depreciates from day to day, but a great part of it becomes so quickly super-annuated, by constant technical progress, that it can be replaced with advantage by new machinery after a few months. The living machinery, on the contrary, gets better the longer it lasts, and in proportion as the skill, handed from one generation to another, accumulates. The "Times" answered the cotton lord as follows:

"Mr. Edmund Potter is so impressed with the exceptional and supreme importance of the cotton masters that, in order to preserve this class and perpetuate their profession, he would keep half a million of the labouring class confined in a great moral workhouse against their will. 'Is the trade worth retaining?' asks Mr. Potter. 'Certainly by all honest means it is,' we answer. 'Is it worth while keeping the machinery in order?' again asks Mr. Potter. Here we hesitate. By the 'machinery' Mr. Potter means the human machinery, for he goes on to protest that he does not mean to use them as an

absolute property. We must confess that we do not think it 'worth while,' or even possible, to keep the human machinery in order—that is to shut it up and keep it oiled till it is wanted. Human machinery *will* rust under inaction, oil and rub it as you may. Moreover, the human machinery will, as we have just seen, get the steam up of its own accord, and burst or run a muck in our great towns. It might, as Mr. Potter says, require some time to reproduce the workers, but, having machinists and capitalists at hand, we could always find thrifty, hard, industrious men wherewith to improvise more master manufacturers than we can ever want. Mr. Potter talks of the trade reviving 'in one, two, or three years,' and he asks us not 'to encourage or allow (!) the working power to emigrate.' He says that it is very natural the workers should wish to emigrate; but he thinks that in spite of their desire, the nation ought to keep this half million of workers with their 700,000 dependents, shut up in the cotton districts; and as a necessary consequence, he must of course think that the nation ought to keep down their discontent by force, and sustain them by alms—and upon the chance that the cotton masters may some day want them . . . The time is come when the great public opinion of these islands must operate to save this 'working power' from those who would deal with it as they would deal with iron, and coal, and cotton."

The "Times'" article was only a jeu d'esprit. The "great public opinion" was, in fact, of Mr. Potter's opinion, that the factory operatives are part of the movable fittings of a factory. Their emigration was prevented.[1] They were locked up in that "moral workhouse," the cotton districts, and they form, as before, "the strength" of the cotton manufacturers of Lancashire.

[1] Parliament did not vote a single farthing in aid of emigration, but simply passed some Acts empowering the municipal corporations to keep the operatives in a half-starved state, *i.e.*, to exploit them at less than the normal wages. On the other hand, when 3 years later, the cattle disease broke out, Parliament broke wildly through its usages and voted, straight off, millions for indemnifying the millionaire landlords, whose farmers in any event came off without loss, owing to the rise in the price of meat. The bull-like bellow of the landed proprietors at the opening of Parliament, in 1866, showed that a man can worship the cow Sabala without being a Hindoo, and can change himself into an ox without being a Jupiter.

Capitalist production, therefore, of itself reproduces the separation between labour-power and the means of labour. It thereby reproduces and perpetuates the condition for exploiting the labourer. It incessantly forces him to sell his labour-power in order to live, and enables the capitalist to purchase labour-power in order that he may enrich himself.[1] It is no longer a mere accident, that capitalist and labourer confront each other in the market as buyer and seller. It is the process itself that incessantly hurls back the labourer on to the market as a vendor of his labour-power, and that incessantly converts his own product into a means by which another man can purchase him. In reality, the labourer belongs to capital, before he has sold himself to capital. His economical bondage[2] is both brought about and concealed by the periodic sale of himself, by his change of masters, and by the oscillations in the market price of labour-power.[3]

Capitalist production, therefore, under its aspect of a continuous connected process, of a process of reproduction, produces not only commodities, not only surplus-value, but it also produces and reproduces the capitalist relation; on the one side the capitalist, on the other the wage-labourer.[4]

[1] "L'ouvrier demandait de la subsistence pour vivre, le chef demandait du travail pour gagner." (Sismondi, l. c., p. 91.)

[2] A boorishly clumsy form of this bondage exists in the county of Durham. This is one of the few counties, in which circumstances do not secure to the farmer undisputed proprietary rights over the agricultural labourer. The mining industry allows the latter some choice. In this county, the farmer, contrary to the custom elsewhere, rents only such farms as have on them labourers' cottages. The rent of the cottage is a part of the wages. These cottages are known as "hinds' houses." They are let to the labourers in consideration of certain feudal services, under a contract called "bondage," which, amongst other things, binds the labourer, during the time he is employed elsewhere, to leave some one, say his daughter, &c., to supply his place. The labourer himself is called a "bondsman." The relationship here set up also shows how individual consumption by the labourer becomes consumption on behalf of capital—or productive consumption—from quite a new point of view: "It is curious to observe that the very dung of the hind and bondsman is the perquisite of the calculating lord . . . and the lord will allow no privy but his own to exist in the neighbourhood, and will rather give a bit of manure here and there for a garden than bate any part of his seigneurial right." (Public Health, Report VII., 1864, p. 188.)

[3] It will not be forgotten, that, with respect to the labour of children, &c., even the formality of a voluntary sale disappears.

[4] "Capital pre-supposes wage-labour, and wage-labour pre-supposes capital. One is a necessary condition to the existence of the other; they mutually call each other

CHAPTER XXIV.

CONVERSION OF SURPLUS-VALUE INTO CAPITAL.

SECTION I. — CAPITALIST PRODUCTION ON A PROGRESSIVELY INCREASING SCALE. TRANSITION OF THE LAWS OF PROPERTY THAT CHARACTERISE PRODUCTION OF COMMODITIES INTO LAWS OF CAPITALIST APPROPRIATION.

HITHERTO we have investigated how surplus-value emanates from capital; we have now to see how capital arises from surplus-value. Employing surplus-value as capital, reconverting it into capital, is called accumulation of capital.[1]

First let us consider this transaction from the standpoint of the individual capitalist. Suppose a spinner to have advanced a capital of £10,000, of which four-fifths (£8000) are laid out in cotton, machinery, &c., and one-fifth (£2000) in wages. Let him produce 240,000 lbs. of yarn annually, having a value of £12,000. The rate of surplus-value being 100%, the surplus-value lies in the surplus or net product of 40,000 lbs. of yarn, one sixth of the gross product, with a value of £2000 which will be realised by a sale. £2000 is £2000. We can neither see nor smell in this sum of money a trace of surplus-value. When we know that a given value is surplus-value, we know how its owner came by it; but that does not alter the nature either of value or of money.

In order to convert this additional sum of £2000 into capital, the master spinner will, all circumstances remaining as before, advance four-fifths of it (£1600) in the purchase of cotton, &c., and one-fifth (£400) in the purchase of additional spinners, who will find in the market the necessaries of life whose value the master has advanced to them. Then the new capital of £2000

into existence. Does an operative in a cotton-factory produce nothing but cotton goods? No, he produces capital. He produces values that give fresh command over his labour, and that, by means of such command, create fresh values." (Karl Marx: Lohnarbeit und Kapital, in the Neue Rheinische Zeitung, No. 266, 7th April 1849.) The articles published under the above title in the N. Rh. Z. are parts of some lectures given by me on that subject, in 1847, in the German "Arbeiter-Verein" at Brussels, the publication of which was interrupted by the revolution of February.

[1] "Accumulation of capital; the employment of a portion of revenue as capital." (Malthus: Definitions &c., ed. Cazenove p. 11.) "Conversion of revenue into capital." (Malthus: Princ. of Pol. Econ., 2nd Ed., Lond., 1836, p. 319.)

functions in the spinning mill, and brings in, in its turn, a surplus-value of £400.

The capital-value was originally advanced in the money form. The surplus-value on the contrary is, originally, the value of a definite portion of the gross product. If this gross product be sold, converted into money, the capital-value regains its original form. From this moment the capital-value and the surplus-value are both of them sums of money, and their reconversion into capital takes place in precisely the same way. The one, as well as the other, is laid out by the capitalist in the purchase of commodities that place him in a position to begin afresh the fabrication of his goods, and this time, on an extended scale. But in order to be able to buy those commodities, he must find them ready in the market.

His own yarns circulate, only because he brings his annual product to market, as all other capitalists likewise do with their commodities. But these commodities, before coming to market, were part of the general annual product, part of the total mass of objects of every kind, into which the sum of the individual capitals, *i.e.*, the total capital of society, had been converted in the course of the year, and of which each capitalist had in hand only an aliquot part. The transactions in the market effectuate only the interchange of the individual components of this annual product, transfer them from one hand to another, but can neither augment the total annual production, nor alter the nature of the objects produced. Hence the use that can be made of the total annual product, depends entirely upon its own composition, but in no way upon circulation.

The annual production must in the first place furnish all those objects (use-values) from which the material components of capital, used up in the course of the year, have to be replaced. Deducting these there remains the net or surplus-product, in which the surplus-value lies. And of what does this surplus-product consist? Only of things destined to satisfy the wants and desires of the capitalist class, things which, consequently, enter into the consumption fund of the

capitalists? Were that the case, the cup of surplus-value would be drained to the very dregs, and nothing but simple reproduction would ever take place.

To accumulate it is necessary to convert a portion of the surplus-product into capital. But we cannot, except by a miracle, convert into capital anything but such articles as can be employed in the labour-process (*i.e.*, means of production), and such further articles as are suitable for the sustenance of the labourer, (*i.e.*, means of subsistence.) Consequently, a part of the annual surplus-labour must have been applied to the production of additional means of production and subsistence, over and above the quantity of these things required to replace the capital advanced. In one word, surplus-value is convertible into capital solely because the surplus-product, whose value it is, already comprises the material elements of new capital.[1]

Now in order to allow of these elements actually functioning as capital, the capitalist class requires additional labour. If the exploitation of the labourers already employed do not increase, either extensively or intensively, then additional labour-power must be found. For this the mechanism of capitalist production provides beforehand, by converting the working class into a class dependent on wages, a class whose ordinary wages suffice, not only for its maintenance, but for its increase. It is only necessary for capital to incorporate this additional labour-power, annually supplied by the working class in the shape of labourers of all ages, with the surplus means of production comprised in the annual produce, and the conversion of surplus-value into capital is complete. From a concrete point of view, accumulation resolves itself into the reproduction of capital on a progressively increasing scale. The circle in which simple reproduction moves, alters its

[1] We here take no account of export trade, by means of which a nation can change articles of luxury either into means of production or means of subsistence, and *vice versâ*. In order to examine the object of our investigation in its integrity, free from all disturbing subsidiary circumstances, we must treat the whole world as one nation, and assume that capitalist production is everywhere established and has possessed itself of every branch of industry.

form, and, to use Sismondi's expression, changes into a spiral.[1]

Let us now return to our illustration. It is the old story: Abraham begat Isaac, Isaac begat Jacob, and so on. The original capital of £10,000 brings in a surplus-value of £2000, which is capitalised. The new capital of £2000 brings in a surplus-value of £400, and this, too, is capitalised, converted into a second additional capital, which, in its turn, produces a further surplus-value of £80. And so the ball rolls on.

We here leave out of consideration the portion of the surplus-value consumed by the capitalist. Just as little does it concern us, for the moment, whether the additional capital is joined on to the original capital, or is separated from it to function independently; whether the same capitalist, who accumulated it, employs it, or whether he hands it over to another. This only we must not forget, that by the side of the newly-formed capital, the original capital continues to reproduce itself, and to produce surplus-value, and that this is also true of all accumulated capital, and the additional capital engendered by it.

The original capital was formed by the advance of £10,000. How did the owner become possessed of it? "By his own labour and that of his forefathers," answer unanimously the spokesmen of political economy.[2] And, in fact, their supposition appears the only one consonant with the laws of the production of commodities.

But it is quite otherwise with regard to the additional capital of £2000. How that originated we know perfectly well. There is not one single atom of its value that does not owe its existence to unpaid labour. The means of production, with which the additional labour-power is incorporated, as well as the necessaries with which the labourers are sustained, are nothing but component parts of the surplus product, of the tribute annually exacted from the working class by the capi-

[1] Sismondi's analysis of accumulation suffers from the great defect, that he contents himself, to too great an extent, with the phrase "conversion of revenue into capital," without fathoming the material conditions of this operation.

[2] "Le travail primitif auquel son capital a dû sa naissance." Sismondi, l. c., ed. Paris, t. I., p. 109.

talist class. Though the latter with a portion of that tribute purchases the additional labour-power even at its full price, so that equivalent is exchanged for equivalent, yet the transaction is for all that only the old dodge of every conqueror who buys commodities from the conquered with the money he has robbed them of.

If the additional capital employs the person who produced it, this producer must not only continue to augment the value of the original capital, but must buy back the fruits of his previous labour with more labour than they cost. When viewed as a transaction between the capitalist class and the working class, it makes no difference that additional labourers are employed by means of the unpaid labour of the previously employed labourers. The capitalist may even convert the additional capital into a machine that throws the producers of that capital out of work, and that replaces them by a few children. In every case the working class creates by the surplus-labour of one year the capital destined to employ additional labour in the following year.[1] And this is what is called: creating capital out of capital.

The accumulation of the first additional capital of £2000 presupposes a value of £10,000 belonging to the capitalist by virtue of his "primitive labour," and advanced by him. The second additional capital of £400 presupposes, on the contrary, only the previous accumulation of the £2000, of which the £400 is the surplus-value capitalised. The ownership of past unpaid labour is thenceforth the sole condition for the appropriation of living unpaid labour on a constantly increasing scale. The more the capitalist has accumulated, the more is he able to accumulate.

In so far as the surplus-value, of which the additional capital, No. 1, consists, is the result of the purchase of labour-power with part of the original capital, a purchase that conformed to the laws of the exchange of commodities, and that, from a legal stand-point, presupposes nothing beyond the free disposal, on the part of the labourer, of his own capacities, and

[1] "Labour creates capital before capital employs labour." E. G. Wakefield, England and America. Lond., 1833, Vol. II., p. 110.

on the part of the owner of money or commodities, of the values that belong to him; in so far as the additional capital, No. 2, &c., is the mere result of No. 1, and, therefore, a consequence of the above conditions; in so far as each single transaction invariably conforms to the laws of the exchange of commodities, the capitalist buying labour-power, the labourer selling it, and we will assume at its real value; in so far as all this is true, it is evident that the laws of appropriation or of private property, laws that are based on the production and circulation of commodities, become by their own inner and inexorable dialectic changed into their very opposite.[1] The exchange of equivalents, the original operation with which we started, has now become turned round in such a way that there is only an apparent exchange. This is owing to the fact, first, that the capital which is exchanged for labour-power is itself but a portion of the product of others' labour appropriated without an equivalent; and, secondly, that this capital must not only be replaced by its producer, but replaced together with an added surplus. The relation of exchange subsisting between capitalist and labourer becomes a mere semblance appertaining to the process of circulation, a mere form, foreign to the real nature of the transaction, and only mystifying it. The ever repeated purchase and sale of labour-power is now the mere form; what really takes place is this—the capitalist again and again appropriates, without equivalent, a portion of the previously materialised labour of others, and exchanges it for a greater quantity of living labour. At first the rights of property seemed to us to be based on a man's own labour. At least, some such assumption was necessary since only commodity owners with equal rights confronted each other, and the sole means by which a man could become possessed of the commodities of others, was by alienating his own commodities; and

[1] Just as at a given stage in its development, commodity production necessarily passes into capitalistic commodity production (in fact, it is only on the basis of capitalistic production that products take the general and predominant form of commodities), so the laws of property that are based on commodity production, necessarily turn into the laws of capitalist app opriation. We may well, therefore, feel astonish d at the cleverness of Proudhon, who would abolish capitalistic property by enforcing the eternal laws of property that are based on commodity production!

these could be replaced by labour alone. Now, however, property turns out to be the right, on the part of the capitalist, to appropriate the unpaid labour of others or its product, and to be the impossibility, on the part of the labourer, of appropriating his own product. The separation of property from labour has become the necessary consequence of a law that apparently originated in their identity.[1]

We have seen that even in the case of simple reproduction, all capital, whatever its original source, becomes converted into accumulated capital, capitalised surplus-value. But in the flood of production all the capital originally advanced becomes a vanishing quantity (*magnitudo evanescens*, in the mathematical sense), compared with the directly accumulated capital, *i.e.*, with the surplus-value or surplus-product that is reconverted into capital, whether it function in the hands of its accumulator, or in those of others. Hence, political economy describes capital in general as "accumulated wealth" (converted surplus-value or revenue), "that is employed over again in the production of surplus-value,"[2] and the capitalist as "the owner of surplus-value."[3] It is merely another way of expressing the same thing to say that all existing capital is accumulated or capitalised interest, for interest is a mere fragment of surplus-value.[4]

SECTION 2.—ERRONEOUS CONCEPTION BY POLITICAL ECONOMY OF REPRODUCTION ON A PROGRESSIVELY INCREASING SCALE.

Before we further investigate accumulation or the reconver-

[1] The property of the capitalist in the product of the labour of others "is a strict consequence of the law of appropriation, the fundamental principle of which was, on the contrary, the exclusive title of every labourer to the product of his own labour." (Cherbuliez, Riche ou Pauvre. Paris, 1841, p. 58, where, however, the dialectical reversal is not properly developed.)

[2] "Capital, viz., accumulated wealth employed with a view to profit." (Malthus, l. c.) "Capital . . . . consists of wealth saved from revenue, and used with a view to profit." (R. Jones: An Introductory Lecture on Polit. Econ., Lond., 1833, p. 16.)

[3] "The possessors of surplus produce or capital." (The Source and Remedy of the National Difficulties. A Letter to Lord John Russell. Lond., 1821.)

[4] "Capital, with compound interest on every portion of capital saved, is so all engrossing that all the wealth in the world from which income is derived, has long ago become the interest on capital." (*London Economist*, 19th July, 1859.)

sion of surplus-value into capital, we must brush on one side an ambiguity introduced by the classical economists.

Just as little as the commodities that the capitalist buys with a part of the surplus-value for his own consumption, serve the purpose of production and of creation of value, so little is the labour that he buys for the satisfaction of his natural and social requirements, productive labour. Instead of converting surplus-value into capital, he, on the contrary, by the purchase of those commodities and that labour, consumes or expends it as revenue. In the face of the habitual mode of life of the old feudal nobility, which, as Hegel rightly says, "consists in consuming what is in hand," and more especially displays itself in the luxury of personal retainers, it was extremely important for bourgeois economy to promulgate the doctrine that accumulation of capital is the first duty of every citizen, and to preach without ceasing, that a man cannot accumulate, if he eats up all his revenue, instead of spending a good part of it in the acquisition of additional productive labourers, who bring in more than they cost. On the other hand the economists had to contend against the popular prejudice, that confuses capitalist production with hoarding,[1] and fancies that accumulated wealth is either wealth that is rescued from being destroyed in its existing form, *i.e.*, from being consumed, or wealth that is withdrawn from circulation. Exclusion of money from circulation would also exclude absolutely its self-expansion as capital, while accumulation of a hoard in the shape of commodities would be sheer tomfoolery.[2] The accumulation of commodities in great masses is the result either of overproduction or of a stoppage of circulation.[3] It is true that the popular mind is impressed by the sight, on the one

[1] "No political economist of the present day can by saving mean mere hoarding: and beyond this contracted and insufficient proceeding, no use of the term in reference to the national wealth can well be imagined, but that which must arise from a different application of what is saved, founded upon a real distinction between the different kinds of labour maintained by it." (Malthus, l.c., p. 38, 39.)

[2] Thus for instance, Balzac, who so thoroughly studied every shade of avarice, represents the old usurer Gobsec as in his second childhood when he begins to heap up a hoard of commodities.

[3] "Accumulation of stocks . . . non-exchange . . . over-production." (Th. Corbet l. c., p. 14.)

hand, of the mass of goods that are stored up for gradual consumption by the rich,[1] and on the other hand, by the formation of reserve stocks; the latter, a phenomenon that is common to all modes of production, and on which we shall dwell for a moment, when we come to analyse circulation. Classical economy is therefore quite right, when it maintains that the consumption of surplus-products by productive, instead of by unproductive labourers, is a characteristic feature of the process of accumulation. But at this point the mistakes also begin. Adam Smith has made it the fashion, to represent accumulation as nothing more than consumption of surplus-products by productive labourers, which amounts to saying, that the capitalising of surplus-value consists in merely turning surplus-value into labour-power. Let us see what Ricardo *e.g.*, says: "It must be understood that all the productions of a country are consumed; but it makes the greatest difference imaginable whether they are consumed by those who reproduce, or by those who do not reproduce another value. When we say that revenue is saved, and added to capital, what we mean is, that the portion of revenue, so said to be added to capital, is consumed by productive instead of unproductive labourers. There can be no greater error than in supposing that capital is increased by non-consumption."[2] There can be no greater error than that which Ricardo and all subsequent economists repeat after A. Smith, viz., that "the part of revenue, of which it is said, it has been added to capital, is consumed by productive labourers." According to this, all surplus-value that is changed into capital becomes variable capital. So far from this being the case, the surplus-value, like the original capital, divides itself into constant capital and variable capital, into means of production and labour-power. Labour-power is the form under which variable capital exists during the process of production. In this process the labour-power is itself consumed by the capitalist while the

[1] In this sense Necker speaks of the "objets de faste et de somptuosité," of which "le temps a grossi l'accumulation," and which "les lois de propriété ont rassemblés dans une seule classe de la société." (Oeuvres de M. Necker, Paris and Lausanne, 1789, t. ii. p. 291.)

[2] Ricardo, l. c., p. 163, note.

means of production are consumed by the labour-power in the exercise of its function, labour. At the same time, the money paid for the purchase of the labour-power, is converted into necessaries, that are consumed, not by "productive labour," but by the "productive labourer." Adam Smith, by a fundamentally perverted analysis, arrives at the absurd conclusion, that even though each individual capital is divided into a constant and a variable part, the capital of society resolves itself only into variable capital, *i.e.*, is laid out exclusively in payment of wages. For instance, suppose a cloth manufacturer converts £2000 into capital. One portion he lays out in buying weavers, the other in woollen yarn, machinery, &c. But the people, from whom he buys the yarn and the machinery, pay for labour with a part of the purchase money, and so on until the whole £2000 are spent in the payment of wages, *i.e.*, until the entire product represented by the £2000 has been consumed by productive labourers. It is evident that the whole gist of this argument lies in the words "and so on," which send us from pillar to post. In truth, Adam Smith breaks his investigation off, just where its difficulties begin.[1]

The annual process of reproduction is easily understood, so long as we keep in view merely the sum total of the year's production. But every single component of this product must be brought into the market as a commodity, and there the difficulty begins. The movements of the individual capitals, and of the personal revenues, cross and intermingle and are lost in the general change of places, in the circulation of the wealth of society; this dazes the sight, and propounds very complicated problems for solution. In the third part of Book II. I shall give the analysis of the real bearings of the facts. It is one of the great merits of the Physiocrats, that in their *Tableau économique* they were the first to attempt to depict the annual

[1] In spite of his "Logic," John St. Mill never detects even such faulty analysis as this when made by his predecessors, an analysis which, even from the bourgeois standpoint of the science, cries out for rectification. In every case he registers with the dogmatism of a disciple, the confusion of his master's thoughts. So here: "The capital itself in the long run becomes entirely wages, and when replaced by the sale of produce becomes wages again."

production in the shape in which it is presented to us after passing through the process of circulation.[1]

For the rest, it is a matter of course, that political economy, acting in the interests of the capitalist class, has not failed to exploit the doctrine of Adam Smith, viz., that the whole of that part of the surplus product which is converted into capital, is consumed by the working class.

SECTION 3.—SEPARATION OF SURPLUS-VALUE INTO CAPITAL AND REVENUE. THE ABSTINENCE THEORY.

In the last preceding chapter, we treated surplus-value (or the surplus product) solely as a fund for supplying the individual consumption of the capitalist. In this chapter we have, so far, treated it solely as a fund for accumulation. It is, however, neither the one nor the other, but is both together. One portion is consumed by the capitalist as revenue,[2] the other is employed as capital, is accumulated.

Given the mass of surplus-value, then, the larger the one of these parts, the smaller is the other. Cæteris paribus, the ratio of these parts determines the magnitude of the accumulation. But it is by the owner of the surplus-value, by the capitalist alone, that the division is made. It is his deliberate act. That part of the tribute exacted by him which he accumulates, is

1 In his description of the process of reproduction, and of accumulation, Adam Smith, in many ways, not only made no advance, but even lost considerable ground, compared with his predecessors, especially the Physiocrats. Connected with the illusion mentioned in the text, is the really wonderful dogma, left by him as an inheritance to political economy, the dogma, that the price of commodities is made up of wages, profit (interest) and rent, *i.e.*, of wages and surplus-value. Starting from this basis, Storch naively confesses, "Il est impossible de résoudre le prix nécessaire dans ses éléments les plus simples." (Storch, l. c. Petersb. Edit. 1815, t. i. p. 140, note.) A fine science of economy this, which declares it impossible to resolve the price of a commodity into its simplest elements! This point will be further investigated in the seventh part of Book iii.

2 The reader will notice, that the word revenue is used in a double sense: first, to designate surplus-value so far as it is the fruit periodically yielded by capital; secondly, to designate the part of that fruit which is periodically consumed by the capitalist, or added to the fund that supplies his private consumption. I have retained this double meaning because it harmonises with the language of the English and French economists.

said to be saved by him, because he does not eat it, *i.e.*, because he performs the function of a capitalist, and enriches himself.

Except as personified capital, the capitalist has no historical value, and no right to that historical existence, which, to use an expression of the witty Lichnowsky, "hasn't got no date." And so far only is the necessity for his own transitory existence implied in the transitory necessity for the capitalist mode of production. But, so far as he is personified capital, it is not values in use and the enjoyment of them, but exchange-value and its augmentation, that spur him into action. Fanatically bent on making value expand itself, he ruthlessly forces the human race to produce for production's sake; he thus forces the development of the productive powers of society, and creates those material conditions, which alone can form the real basis of a higher form of society, a society in which the full and free development of every individual forms the ruling principle. Only as personified capital is the capitalist respectable. As such, he shares with the miser the passion for wealth as wealth. But that which in the miser is a mere idiosyncrasy, is, in the capitalist, the effect of the social mechanism, of which he is but one of the wheels. Moreover, the development of capitalist production makes it constantly necessary to keep increasing the amount of the capital laid out in a given industrial undertaking, and competition makes the immanent laws of capitalist production to be felt by each individual capitalist, as external coercive laws. It compels him to keep constantly extending his capital, in order to preserve it, but extend it he cannot, except by means of progressive accumulation.

So far, therefore, as his actions are a mere function of capital —endowed as capital is, in his person, with consciousness and a will—his own private consumption is a robbery perpetrated on accumulation, just as in book-keeping by double entry, the private expenditure of the capitalist is placed on the debtor side of his account against his capital. To accumulate, is to conquer the world of social wealth, to increase the mass of human beings exploited by him, and thus

to extend both the direct and the indirect sway of the capitalist.[1]

But original sin is at work everywhere. As capitalist production, accumulation, and wealth, become developed, the capitalist ceases to be the mere incarnation of capital. He has a fellow-feeling for his own Adam, and his education gradually enables him to smile at the rage for asceticism, as a mere prejudice of the old-fashioned miser. While the capitalist of the classical type brands individual consumption as a sin against his function, and as "abstinence" from accumulating, the modernised capitalist is capable of looking upon accumulation as "abstinence" from pleasure.

"Two souls, alas, do dwell within his breast;
The one is ever parting from the other."[2]

[1] Taking the usurer, that old-fashioned but ever renewed specimen of the capitalist for his text, Luther shows very aptly that the love of power is an element in the desire to get rich. "The heathen were able, by the light of reason, to conclude that a usurer is a double-dyed thief and murderer. We Christians, however, hold them in such honour, that we fairly worship them for the sake of their money. . . Whoever eats up, robs, and steals the nourishment of another, that man commits as great a murder (so far as in him lies) as he who starves a man or utterly undoes him. Such does a usurer, and sits the while safe on his stool, when he ought rather to be hanging on the gallows, and be eaten by as many ravens as he has stolen guilders, if only there were so much flesh on him, that so many ravens could stick their beaks in and share it. Meanwhile, we hang the small thieves . . . Little thieves are put in the stocks, great thieves go flaunting in gold and silk . . . Therefore is there, on this earth, no greater enemy of man (after the devil) than a gripe-money, and usurer, for he wants to be God over all men. Turks, soldiers, and tyrants are also bad men, yet must they let the people live, and confess that they are bad, and enemies, and do, nay, must, now and then show pity to some. But a usurer and money-glutton, such a one would have the whole world perish of hunger and thirst, misery and want, so far as in him lies, so that he may have all to himself, and every one may receive from him as from a God, and be his serf for ever. To wear fine cloaks, golden chains, rings, to wipe his mouth, to be deemed and taken for a worthy, pious man . . . Usury is a great huge monster, like a were-wolf, who lays waste all, more than any Cacus, Gerion or Antus. And yet decks himself out, and would be thought pious, so that people may not see where the oxen have gone, that he drags backwards into his den. But Hercules shall hear the cry of the oxen and of his prisoners, and shall seek Cacus even in cliffs and among rocks, and shall set the oxen loose again from the villain. For Cacus means the villain that is a pious usurer, and steals, robs, eats everything. And will not own that he has done it, and thinks no one will find him out, because the oxen, drawn backwards into his den, make it seem, from their foot-prints, that they have been let out. So the usurer would deceive the world, as though he were of use and gave the world oxen, which he, however, rends, and eats all alone . . . And since we break on the wheel, and behead highwaymen, murderers and housebreakers, how much more ought we to break on the wheel and kill, . . . hunt down, curse and behead all usurers." (Martin Luther, l. c.)

[2] See Goethe's Faust.

At the historical dawn of capitalist production,—and every capitalist upstart has personally to go through this historical stage—avarice, and desire to get rich, are the ruling passions. But the progress of capitalist production not only creates a world of delights; it lays open, in speculation and the credit system, a thousand sources of sudden enrichment. When a certain stage of development has been reached, a conventional degree of prodigality, which is also an exhibition of wealth, and consequently a source of credit, becomes a business necessity to the "unfortunate" capitalist. Luxury enters into capital's expenses of representation. Moreover, the capitalist gets rich, not like the miser, in proportion to his personal labour and restricted consumption, but at the same rate as he squeezes out the labour-power of others, and enforces on the labourer abstinence from all life's enjoyments. Although, therefore, the prodigality of the capitalist never possesses the bonâ-fide character of the open-handed feudal lord's prodigality, but, on the contrary, has always lurking behind it the most sordid avarice and the most anxious calculation, yet his expenditure grows with his accumulation, without the one necessarily restricting the other. But along with this growth, there is at the same time developed in his breast, a Faustian conflict between the passion for accumulation, and the desire for enjoyment.

Dr. Aikin says in a work published in 1795: "The trade of Manchester may be divided into four periods. First, when manufacturers were obliged to work hard for their livelihood." They enriched themselves chiefly by robbing the parents, whose children were bound as apprentices to them: the parents paid a high premium, while the apprentices were starved. On the other hand, the average profits were low, and to accumulate, extreme parsimony was requisite. They lived like misers, and were far from consuming even the interest on their capital. "The second period, when they had begun to acquire little fortunes, but worked as hard as before,"—for direct exploitation of labour costs labour, as every slave-driver knows—"and lived in as plain a manner as before. . . . . The third, when luxury began, and the trade was pushed by sending out riders for orders into every market town in the Kingdom. . . . .

It is probable that few or no capitals of £3000 to £4000 acquired by trade existed here before 1690. However, about that time, or a little later, the traders had got money beforehand, and began to build modern brick houses, instead of those of wood and plaster." Even in the early part of the 18th century, a Manchester manufacturer, who placed a pint of foreign wine before his guests, exposed himself to the remarks and headshakings of all his neighbours. Before the rise of machinery, a manufacturer's evening expenditure at the public-house where they all met, never exceeded sixpence for a glass of punch, and a penny for a screw of tobacco. It was not till 1758, and this marks an epoch, that a person actually engaged in business was seen with an equipage of his own. "The fourth period," the last 30 years of the 18th century, "is that in which expense and luxury have made great progress, and was supported by a trade extended by means of riders and factors through every part of Europe."[1] What would the good Dr. Aikin say if he could rise from his grave and see the Manchester of to-day?

Accumulate, accumulate! That is Moses and the prophets! "Industry furnishes the material which saving accumulates."[2] Therefore, save, save, *i.e.*, reconvert the greatest possible portion of surplus-value, or surplus-product into capital! Accumulation for accumulation's sake, production for production's sake: by this formula classical economy expressed the historical mission of the bourgeoisie, and did not for a single instant deceive itself over the birth-throes of wealth.[3] But what avails lamentation in the face of historical necessity? If to classical economy, the proletarian is but a machine for the production of surplus-value; on the other hand, the capitalist is in its eyes only a machine for the conversion of this surplus-value into additional

[1] Dr. Aikin: Description of the country from 30 to 40 miles round Manchester. Lond., 1795, p. 182, sqq.

[2] A. Smith: l. c., bk. iii., ch. iii.

[3] Even J. B. Say says: "Les épargnes des riches se font aux dépens des pauvres." "The Roman proletarian lived almost entirely at the expense of society. . . . . It can almost be said that modern society lives at the expense of the proletarians, on what it keeps out of the remuneration of labour." (Sismondi: Etudes, &c., t. i., p. 24.)

capital. Political economy takes the historical function of the capitalist in bitter earnest. In order to charm out of his bosom the awful conflict between the desire for enjoyment and the chase after riches, Malthus, about the year 1820, advocated a division of labour, which assigns to the capitalist actually engaged in production, the business of accumulating, and to the other sharers in surplus-value, to the landlords, the place-men, the beneficed clergy, &c., the business of spending. It is of the highest importance, he says, "to keep separate the passion for expenditure and the passion for accumulation."[1] The capitalists having long been good livers and men of the world, uttered loud cries. What, exclaimed one of their spokesmen, a disciple of Ricardo, Mr. Malthus preaches high rents, heavy taxes, &c., so that the pressure of the spur may constantly be kept on the industrious by unproductive consumers! By all means, production, production on a constantly increasing scale, runs the shibboleth; but "production will, by such a process, be far more curbed in than spurred on. Nor is it quite fair thus to maintain in idleness a number of persons, only to pinch others, who are likely, from their characters, if you can force them to work, to work with success."[2] Unfair as he finds it to spur on the industrial capitalist, by depriving his bread of its butter, yet he thinks it necessary to reduce the labourer's wages to a minimum "to keep him industrious." Nor does he for a moment conceal the fact, that the appropriation of unpaid labour is the secret of surplus-value. "Increased demand on the part of the labourers means nothing more than their willingness to take less of their own product for themselves, and leave a greater part of it to their employers; and if it be said, that this begets glut, by lessening consumption" (on the part of the labourers), "I can only reply that glut is synonymous with large profits."[3]

The learned disputation, how the booty pumped out of the labourer may be divided, with most advantage to accumulation, between the industrial capitalist and the rich idler, was hushed

[1] Malthus, l. c., p. 319, 320.
[2] An Inquiry into those Principles respecting the Nature of Demand, &c., p. 67.
[3] l. c., p. 50.

in face of the revolution of July. Shortly afterwards, the town proletariat at Lyons sounded the tocsin of revolution, and the country proletariat in England began to set fire to farmyards and cornstacks. On this side of the Channel Owenism began to spread; on the other side, St. Simonism and Fourierism. The hour of vulgar economy had struck. Exactly a year, before Nassau W. Senior discovered at Manchester, that the profit (including interest) of capital is the product of the last hour of the twelve, he had announced to the world another discovery. "I substitute," he proudly says, "for the word capital, considered as an instrument of production, the word abstinence."[1] An unparalleled sample this, of the discoveries of vulgar economy! It substitutes for an economic category, a sycophantic phrase—*voilà tout.* "When the savage," says Senior, "makes bows, he exercises an industry, but he does not practise abstinence." This explains how and why, in the earlier states of society, the implements of labour were fabricated without abstinence on the part of the capitalist. "The more society progresses, the more abstinence is demanded,"[2] namely, from those who ply the industry of appropriating the fruits of others' industry. All the conditions for carrying on the labour-process are suddenly converted into so many acts of abstinence on the part of the capitalist. If the corn is not all eaten, but part of it also sown—abstinence of the capitalist. If the wine gets time to mature—abstinence of the capitalist.[3]

[1] (Senior, Principes fondamentaux de l'Écon. Pol. trad. Arrivabeue. Paris, 1836, p. 308). This was rather too much for the adherents of the old classical school. "Mr. Senior has substituted for it" (the expression, labour and profit) "the expression Labour and Abstinence. He who converts his revenue abstains from the enjoyment which its expenditure would afford him. It is not the capital, but the use of the capital productively, which is the cause of profits." (John Cazenove, l. c. p. 130, Note.) John St. Mill, on the contrary, accepts on the one hand Ricardo's theory of profit, and annexes on the other hand Senior's "remuneration of abstinence." He is as much at home in absurd contradictions, as he feels at sea in the Hegelian contradiction, the source of all dialectic. It has never occurred to the vulgar economist to make the simple reflexion, that every human action may be viewed, as "abstinence" from its opposite. Eating is abstinence from fasting, walking, abstinence from standing still, working, abstinence from idling, idling, abstinence from working, &c. These gentlemen would do well, to ponder, once in a way, over Spinoza's: "Determinatio est Negatio."

[2] Senior, l. c. p. 342.

[3] "No one . . . will sow his wheat, for instance, and allow it to remain a twelve-

The capitalist robs his own self, whenever he "lends (!) the instruments of production to the labourer," that is, whenever by incorporating labour-power with them, he uses them to extract surplus-value out of that labour-power, instead of eating them up, steam-engines, cotton, railways, manure, horses, and all; or as the vulgar economist childishly puts it, instead of dissipating "their value" in luxuries and other articles of consumption.[1] How the capitalists as a class are to perform that feat, is a secret that vulgar economy has hitherto obstinately refused to divulge. Enough, that the world still jogs on, solely through the self-chastisement of this modern penitent of Vishnu, the capitalist. Not only accumulation, but the simple "conservation of a capital requires a constant effort to resist the temptation of consuming it."[2] The simple dictates of humanity therefore plainly enjoin the release of the capitalist from this martyrdom and temptation, in the same way that the Georgian slave-owner was lately delivered, by the abolition of slavery, from the painful dilemma, whether to squander the surplus-product lashed out of his niggers, entirely in champagne, or whether to reconvert a part of it into more niggers and more land.

In economic forms of society of the most different kinds, there occurs, not only simple reproduction, but, in varying degrees, reproduction on a progressively increasing scale. By degrees more is produced and more consumed, and consequently more products have to be converted into means of production. This process, however, does not present itself as accumulation of capital, nor as the function of a capitalist, so long as the labourer's means of production, and with them, his product and

month in the ground, or leave his wine in a cellar for years, instead of consuming these things or their equivalent at once . . . unless he expects to acquire additional value, &c." (Scrope, Polit. Econ. edit. by A. Potter, New York, 1841, p. 133-134.)

[1] "La privation que s'impose le capitaliste, en prêtant (this euphemism used, for the purpose of identifying, according to the approved method of vulgar economy, the labourer who is exploited, with the industrial capitalist who exploits, and to whom other capitalists lend money) ses instruments de production au travailleur, au lieu d'en consacrer la valeur à son propre usage, en la transforment en objets d'utilité ou d'agrément." (G. de Molinari, l. c. p. 49.)

[2] "La conservation d'un capital exige . . . un effort constant pour résister à la tentation de le consommer." (Courcelles-Seneuil, l. c. p. 57.)

means of subsistence, do not confront him in the shape of capital.[1] Richard Jones, who died a few years ago, and was the successor of Malthus in the chair of political economy at Haileybury College, discusses this point well in the light of two important facts. Since the great mass of the Hindoo population are peasants cultivating their land themselves, their products, their instruments of labour and means of subsistence never take "the shape of a fund saved from revenue, which fund has, therefore, gone through a previous process of accumulation."[2] On the other hand, the non-agricultural labourers in those provinces where the English rule has least disturbed the old system, are directly employed by the magnates, to whom a portion of the agricultural surplus-product is rendered in the shape of tribute or rent. One portion of this product is consumed by the magnates in kind, another is converted, for their use, by the labourers, into articles of luxury and such like things; while the rest forms the wages of the labourers, who own their implements of labour. Here, production and reproduction on a progressively increasing scale, go on their way without any intervention from that queer saint, that knight of the woeful countenance, the capitalist "abstainer."

SECTION 4.—CIRCUMSTANCES THAT, INDEPENDENTLY OF THE PROPORTIONAL DIVISION OF SURPLUS-VALUE INTO CAPITAL AND REVENUE, DETERMINE THE AMOUNT OF ACCUMULATION. DEGREE OF EXPLOITATION OF LABOUR-POWER. PRODUCTIVITY OF LABOUR. GROWING DIFFERENCE IN AMOUNT BETWEEN CAPITAL EMPLOYED AND CAPITAL CONSUMED. MAGNITUDE OF CAPITAL ADVANCED.

The proportion in which surplus-value breaks up into capital and revenue being given, the magnitude of the capital accumulated clearly depends on the absolute magnitude of the

[1] "The particular classes of income which yield the most abundantly to the progress of national capital, change at different stages of their progress, and are, therefore, entirely different in nations occupying different positions in that progress . . . Profits . . . unimportant source of accumulation, compared with wages and rents, in the earlier stages of society . . . When a considerable advance in the powers of national industry has actually taken place, profits rise into comparative importance as a source of accumulation." (Richard Jones. Textbook, &c., p. 16. 21.)

[2] l. c. p. 36. sq.

surplus-value. Suppose that 80 per cent. were capitalised and 20 per cent. eaten up, the accumulated capital will be £2,400 or £1,200, according as the total surplus-value has amounted to £3,000 or £1,500. Hence all the circumstances that determine the mass of surplus-value, operate to determine the magnitude of the accumulation. We sum them up once again, but only in so far as they afford new points of view in regard to accumulation.

It will be remembered that the rate of surplus-value depends, in the first place, on the degree of exploitation of labour-power. Political economy values this fact so highly, that it occasionally identifies the acceleration of accumulation due to increased productiveness of labour, with its acceleration due to increased exploitation of the labourer.[1] In the chapters on the production of surplus-value it was constantly presupposed that wages are at least equal to the value of labour-power. Forcible reduction of wages below this value plays, however, in practice too important a part, for us not to pause upon it for a moment. It, in fact, transforms, within certain limits, the labourer's necessary consumption-fund into a fund for the accumulation of capital.

"Wages," says John Stuart Mill, "have no productive power; they are the price of a productive power. Wages do not contribute, along with labour, to the production of commodities, no more than the price of tools contributes along with the tools themselves. If labour could be had without purchase, wages might be dispensed with."[2] But if the labourers could live on air they could not be bought at any price. The zero of their cost is therefore a limit in a mathematical sense, always

[1] "Ricardo says: 'In different stages of society the accumulation of capital or of the means of employing" (*i.e.*, exploiting) "labour is more or less rapid, and must in all cases depend on the productive powers of labour. The productive powers of labour are generally greatest where there is an abundance of fertile land.' If, in the first sentence, the productive powers of labour mean the smallness of that aliquot part of any produce that goes to those whose manual labour produced it, the sentence is nearly identical, because the remaining aliquot part is the fund whence capital can, if the *owner pleases*, be accumulated. But then this does not generally happen, where there is most fertile land." ("Observations on certain verbal disputes, &c.," pp. 74, 75.)

[2] J. Stuart Mill: "Essays on some unsettled questions of Political Economy Lond., 1849," p. 90.

beyond reach, although we can always approximate more and more nearly to it. The constant tendency of capital is to force the cost of labour back towards this zero. A writer of the 18th century, often quoted already, the author of the "Essay on Trade and Commerce," only betrays the innermost secret soul of English capitalism, when he declares the historic mission of England to be the forcing down of English wages to the level of the French and the Dutch.[1] With other things he says naïvely: "But if our poor" (technical term for labourers) "will live luxuriously . . . . then labour must, of course, be dear. . . . . When it is considered what luxuries the manufacturing populace consume, such as brandy, gin, tea, sugar, foreign fruit, strong beer, printed linens, snuff, tobacco, &c."[2] He quotes the work of a Northamptonshire manufacturer, who, with eyes squinting heavenward, moans: "Labour is one-third cheaper in France than in England; for their poor work hard, and fare hard, as to their food and clothing. Their chief diet is bread, fruit, herbs, roots, and dried fish; for they very seldom eat flesh; and when wheat is dear, they eat very little bread."[3] "To which may be added," our essayist goes on, "that their drink is either water or other small liquors, so that they spend very little money . . . . These things are very difficult to be brought about; but they are not impracticable, since they have been effected both in France and in Holland."[4] Twenty years

[1] "An Essay on Trade and Commerce, Lond., 1770," p. 44. The "Times" of December, 1866, and January, 1867, in like manner published certain outpourings of the heart of the English mineowner, in which the happy lot of the Belgian miners was pictured, who asked and received no more than was strictly necessary for them to live for their "masters." The Belgian labourers have to suffer much, but to figure in the "Times" as model labourers! In the beginning of February, 1867, came the answer: strike of the Belgian miners at Marchienne, put down by powder and lead.

[2] l. c., pp. 44, 46.

[3] The Northamptonshire manufacturer commits a pious fraud, pardonable in one whose heart is so full. He nominally compares the life of the English and French manufacturing labourer, but in the words just quoted he is painting, as he himself confesses in his confused way, the French agricultural labourers.

[4] l. c., p. 70, 71. Note to the 3rd edition: To-day, thanks to the competition on the world-market, established since then, we have advanced much further. "If China," says Mr. Stapleton, M.P., to his constituents, "should become a great manufacturing country, I do not see how the manufacturing population of Europe could sustain the contest without descending to the level of their competitors." ("Times," Sept. 9, 1873, p. 8.) The wished-for goal of English capital is no longer Continental wages but Chinese.

later, an American humbug, the baronised Yankee, Benjamin Thomson (*alias* Count Rumford) followed the same line of philanthropy to the great satisfaction of God and man. His "Essays" are a cookery book with receipts of all kinds for replacing by some succedaneum the ordinary dear food of the labourer. The following is a particulary successful receipt of this wonderful philosopher: "5 lbs. of barley meal, 7½d.; 5 lbs. of Indian corn, 6¼d.; 3d. worth of red herring, 1d. salt, 1d. vinegar, 2d. pepper and sweet herbs, in all 20¾d.; make a soup for 64 men, and at the medium price of barley and of Indian corn . . . . this soup may be provided at ¼d, the portion of 20 ounces."[1] With the advance of capitalistic production, the adulteration of food rendered Thompson's ideal superfluous.[2] At the end of the 18th and during the first ten years of the 19th century, the English farmers and landlords enforced the absolute minimum of wage, by paying the agricultural labourers less than the minimum in the form of wages, and the remainder in the shape of parochial relief. An example of the waggish way in which the English Dogberries acted in their "legal" fixing of a wages tariff: "The squires of Norfolk had dined, says Mr. Burke, when they fixed the rate of wages; the squires of Berks evidently thought the labourers ought not to do so, when they fixed the rate of wages at Speenhamland, 1795. . . . . There they decide that 'income (weekly) should be 3s.

[1] Benjamin Thompson: Essays, Political, Economical, and Philosophical, &c., 3 vols., Lond., 1796-1802, vol. i., p. 288. In his "The State of the Poor, or an History of the Labouring Classes in England, &c.," Sir F. M. Eden strongly recommends the Rumfordian beggar-soup to workhouse overseers, and reproachfully warns the English labourers that "many poor people, particularly in Scotland, live, and that very comfortably, for months together, upon oat-meal and barley-meal, mixed with only water and salt." (l. c., vol. i., book i., ch. 2., p. 503.) The same sort of hints in the 19th century. "The most wholesome mixtures of flour having been refused (by the English agricultural labourer) . . . . in Scotland, where education is better, this prejudice is, probably, unknown." (Charles H. Parry. M.D.: The question of the necessity of the existing Corn Laws considered. London, 1816, p. 69.) This same Parry, however, complains that the English labourer is now (1815) in a much worse condition than in Eden's time (1787).

[2] From the reports of the last Parliamentary Commission on adulteration of means of subsistence, it will be seen that the adulteration even of medicines is the rule, not the exception in England. *E.g.*, the examination of 34 specimens of opium, purchased of as many different chemists in London, showed that 31 were adulterated with poppy heads, wheat-flour, gum, clay, sand, &c. Several did not contain an atom of morphia.

for a man,' when the gallon or half-peck loaf of 8 lbs. 11 oz. is at 1s., and increase regularly till bread is 1s. 5d.; when it is above that sum, decrease regularly till it be at 2s., and then his food *should be* $\frac{1}{5}$th less."[1] Before the Committee of Inquiry of the House of Lords, 1814, a certain A. Bennett, a large farmer, magistrate, poor-law guardian, and wage-regulator, was asked: "Has any proportion of the value of daily labour been made up to the labourers out of the poors' rate?" Answer: "Yes, it has; the weekly income of every family is made up to the gallon loaf (8 lbs. 11 oz.), and 3d. per head. . . . . The gallon loaf per week is what we suppose sufficient for the maintenance of every person in the family for the week; and the 3d. is for clothes, and if the parish think proper to find clothes, the 3d. is deducted. This practice goes through all the western part of Wiltshire, and, I believe, throughout the country."[2] "For years," exclaims a bourgeois author of that time, "they (the farmers) have degraded a respectable class of their countrymen, by forcing them to have recourse to the workhouse . . . . the farmer, while increasing his own gains, has prevented any accumulation on the part of his labouring dependants."[3] The part played in our days by the direct robbery from the labourer's necessary consumption-fund in the formation of surplus-value, and, therefore, of the accumulation fund of capital, the so-called domestic industry has served to show. (Ch. xv., sect. 8, c.) Further facts on this subject will be given later.

Although in all branches of industry that part of the constant capital consisting of instruments of labour must be sufficient for a certain number of labourers (determined by the magnitude of the undertaking), it by no means always necessarily increases in the same proportion as the quantity of labour employed. In a factory, suppose that 100 labourers working 8 hours a day yield 800 working-hours.

[1] G. B. Newnham (barrister-at-law): "A Review of the Evidence before the Committee of the two Houses of Parliament on the Corn Laws. Lond., 1815," p. 28, *note*.

[2] l. c., pp. 19, 20.

[3] C. H. Parry, l. c., pp. 77, 69. The landlords, on their side, not only "indemnified" themselves for the Anti-jacobin war, which they waged in the name of England, but enriched themselves enormously. Their rents doubled, trebled, quadrupled, "and in one instance, increased sixfold in eighteen years." (l. c., pp. 100, 101.)

If the capitalist wishes to raise this sum by one half, he can employ 50 more workers; but then he must also advance more capital, not merely for wages, but for instruments of labour. But he might also let the 100 labourers work 12 hours instead of 8, and then the instruments of labour already to hand would be enough. These would then simply be more rapidly consumed. Thus additional labour, begotten of the greater tension of labour-power, can augment surplus-product and surplus-value (*i.e.*, the subject matter of accumulation), without corresponding augmentation in the constant part of capital.

In the extractive industries, mines, &c., the raw materials form no part of the capital advanced. The subject of labour is in this case not a product of previous labour, but is furnished by Nature gratis, as in the case of metals, minerals, coal, stone, &c. In these cases the constant capital consists almost exclusively of instruments of labour, which can very well absorb an increased quantity of labour (day and night shifts of labourers, *e.g.*). All other things being equal, the mass and value of the product will rise in direct proportion to the labour expended. As on the first day of production, the original produce-formers, now turned into the creators of the material elements of capital—man and Nature—still work together. Thanks to the elasticity of labour-power, the domain of accumulation has extended without any previous enlargement of constant capital.

In agriculture the land under cultivation cannot be increased without the advance of more seed and manure. But this advance once made, the purely mechanical working of the soil itself produces a marvellous effect on the amount of the product. A greater quantity of labour, done by the same number of labourers as before, thus increases the fertility, without requiring any new advance in the instruments of labour. It is once again the direct action of man on Nature which becomes an immediate source of greater accumulation, without the intervention of any new capital.

Finally, in what is called manufacturing industry, every additional expenditure of labour presupposes a corresponding additional expenditure of raw materials, but not necessarily of

instruments of labour. And as extractive industry and agriculture supply manufacturing industry with its raw materials and those of its instruments of labour, the additional product the former have created without additional advance of capital, tells also in favour of the latter.

General result: by incorporating with itself the two primary creators of wealth, labour-power and the land, capital acquires a power of expansion that permits it to augment the elements of its accumulation beyond the limits apparently fixed by its own magnitude, or by the value and the mass of the means of production, already produced, in which it has its being.

Another important factor in the accumulation of capital is the degree of productivity of social labour.

With the productive power of labour increases the mass of the products, in which a certain value, and, therefore, a surplus-value of a given magnitude, is embodied. The rate of surplus-value remaining the same or even falling, so long as it only falls more slowly, than the productive power of labour rises, the mass of the surplus-product increases. The division of this product into revenue and additional capital remaining the same, the consumption of the capitalist may, therefore, increase without any decrease in the fund of accumulation. The relative magnitude of the accumulation fund may even increase at the expense of the consumption fund, whilst the cheapening of commodities places at the disposal of the capitalist as many means of enjoyment as formerly, or even more than formerly. But hand-in-hand with the increasing productivity of labour, goes, as we have seen, the cheapening of the labourer, therefore a higher rate of surplus-value, even when the real wages are rising. The latter never rise proportionally to the productive power of labour. The same value in variable capital therefore sets in movement more labour-power, and, therefore, more labour. The same value in constant capital is embodied in more means of production, *i.e.*, in more instruments of labour, materials of labour and auxiliary materials; it therefore also supplies more elements for the production both of use-value and of value, and with these more absorbers of labour. The value of the additional capital, therefore, remaining the same

or even diminishing, accelerated accumulation still takes place. Not only does the scale of reproduction materially extend, but the production of surplus-value increases more rapidly than the value of the additional capital.

The development of the productive power of labour reacts also on the original capital already engaged in the process of production. A part of the functioning constant capital consists of instruments of labour, such as machinery, &c., which are not consumed, and therefore not reproduced, or replaced by new ones of the same kind, until after long periods of time. But every year a part of these instruments of labour perishes or reaches the limit of its productive function. It reaches, therefore, in that year, the time for its periodical reproduction, for its replacement by new ones of the same kind. If the productiveness of labour has, during the using up of these instruments of labour, increased (and it developes continually with the uninterrupted advance of science and technology), more efficient and (considering their increased efficiency), cheaper machines, tools, apparatus, &c., replace the old. The old capital is reproduced in a more productive form, apart from the constant detail improvements in the instruments of labour already in use. The other part of the constant capital, raw material and auxiliary substances, is constantly reproduced in less than a year; those produced by agriculture, for the most part annually. Every introduction of improved methods, therefore, works almost simultaneously on the new capital and on that already in action. Every advance in Chemistry not only multiplies the number of useful materials and the useful applications of those already known, thus extending with the growth of capital its sphere of investment. It teaches at the same time how to throw the excrements of the processes of production and consumption back again into the circle of the process of reproduction, and thus, without any previous outlay of capital, creates new matter for capital. Like the increased exploitation of natural wealth by the mere increase in the tension of labour-power, science and technology give capital a power of expansion independent of the given magnitude of the capital actually functioning. They react at the same time on

that part of the original capital which has entered upon its stage of renewal. This, in passing into its new shape, incorporates gratis the social advance made while its old shape was being used up. Of course, this development of productive power is accompanied by a partial depreciation of functioning capital. So far as this depreciation makes itself acutely felt in competition, the burden falls on the labourer, in the increased exploitation of whom the capitalist looks for his indemnification.

Labour transmits to its product the value of the means of production consumed by it. On the other hand, the value and mass of the means of production set in motion by a given quantity of labour increase as the labour becomes more productive. Though the same quantity of labour adds always to its products only the same sum of new value, still the old capital-value, transmitted by the labour to the products, increases with the growing productivity of labour.

An English and a Chinese spinner, *e.g.*, may work the same number of hours with the same intensity; then they will both in a week create equal values. But in spite of this equality, an immense difference will obtain between the value of the week's product of the Englishman, who works with a mighty automaton, and that of the Chinaman, who has but a spinning wheel. In the same time as the Chinaman spins one pound of cotton, the Englishman spins several hundreds of pounds. A sum, many hundred times as great, of old values swells the value of his product, in which those reappear in a new, useful form, and can thus function anew as capital. "In 1782," as Frederick Engels teaches us, "all the wool crop in England of the three preceding years, lay untouched for want of labourers, and so it must have lain, if newly invented machinery had not come to its aid and spun it."[1] Labour embodied in the form of machinery of course did not directly force into life a single man, but it made it possible for a smaller number of labourers, with the addition of relatively less living labour, not only to consume the wool productively, and put into it new value, but to preserve in the form of yarn, &c., its old value. At the same time, it caused and stimulated increased reproduction of

[1] Frederick Engels, "Lage der arbeitenden Klasse in England," p. 20.

wool. It is the natural property of living labour, to transmit old value, whilst it creates new. Hence, with the increase in efficacy, extent and value of its means of production, consequently with the accumulation that accompanies the development of its productive power, labour keeps up and eternises an always increasing capital-value in a form ever new.[1] This

[1] Classic economy has, on account of a deficient analysis of the labour-process, and of the process of creating value, never properly grasped this weighty element of reproduction, as may be seen in Ricardo; he says, *e.g.*, whatever the change in productive power, "a million men always produce in manufactures the same value." This is accurate, if the extension and degree of intensity of their labour are given. But it does not prevent (this Ricardo overlooks in certain conclusions he draws) a million men with different powers of productivity in their labour, turning into products very different masses of the means of production, and therefore preserving in their products very different masses of value; in consequence of which the values of the products yielded may vary considerably. Ricardo has, it may be noted in passing, tried in vain to make clear to J. B. Say, by that very example, the difference between use-value (which he here calls wealth or material riches) and exchange-value. Say answers: "Quant à la difficulté qu'élève Mr. Ricardo en disant que, par des procédés mieux entendus, un million de personnes peuvent produire deux fois, trois fois autant de richesses, sans produire plus de valeurs, cette difficulté n'est pas une lorsque l'on considère, ainsi qu'on le doit, la production comme un échange dans lequel on donne les services productifs de son travail, de sa terre, et de ses capitaux, pour obtenir des produits. C'est par le moyen de ces services productifs, que nous acquérons tous les produits qui sont au monde. Or . . . . nous sommes d'autant plus riches, nos services productifs ont d'autant plus de valeur qu'ils obtiennent dans l'échange appelé production une plus grande quantité de choses utiles." (J. B. Say; "Lettres à M. Malthus, Paris, 1820," pp. 168, 169.) The "difficulté"—it exists for him, not for Ricardo—that Say means to clear up is this: Why does not the exchange-value of the use-values increase, when their quantity increases in consequence of increased productive power of labour? Answer: the difficulty is met by calling use-value, exchange-value, if you please. Exchange-value is a thing that is connected one way or another with exchange. If therefore production is called an exchange of labour and means of production against the product, it is clear as day that you obtain more exchange-value in proportion as the production yields more use-value. In other words, the more use-values, *e.g.*. stockings, a working day yields to the stocking-manufacturer, the richer is he in stockings. Suddenly, however, Say recollects that "with a greater quantity" of stockings their "price" (which of course has nothing to do with their exchange-value !) falls "parce que la concurrence les (les producteurs) oblige à donner les produits pour ce qu'ils leur coûtent." But whence does the profit come, if the capitalist sells the commodities at cost-price? Never mind! Say declares that, in consequence of increased productivity, every one now receives in return for a given equivalent two pairs of stockings instead of one as before. The result he arrives at, is precisely that proposition of Ricardo that he aimed at disproving. After this mighty effort of thought, he triumphantly apostrophises Malthus in the words: "Telle est, monsieur, la doctrine bien liée, sans laquelle il est impossible, je le déclare, d'expliquer les plus grandes difficultés de l'économie politique, et notamment, comment il se peut qu'une nation soit plus riche lorsque ses produits diminuent de valeur, quoique la richesse soit de la

natural power of labour takes the appearance of an intrinsic property of capital, in which it is incorporated, just as the productive forces of social labour take the appearance of inherent properties of capital, and as the constant appropriation of surplus-labour by the capitalists, takes that of a constant self-expansion of capital.

With the increase of capital, the difference between the capital employed and the capital consumed increases. In other words, there is increase in the value and the material mass of the instruments of labour, such as buildings, machinery, drain-pipes, working-cattle, apparatus of every kind that function for a longer or shorter time in processes of production constantly repeated, or that serve for the attainment of particular useful effects, whilst they themselves only gradually wear out, therefore only lose their value piecemeal, therefore transfer that value to the product only bit by bit. In the same proportion as these instruments of labour serve as product-formers without adding value to the product, *i.e*, in the same proportion as they are wholly employed but only partly consumed, they perform, as we saw earlier, the same gratuitous service as the natural forces, water, steam, air, electricity, etc. This gratuitous service of past labour, when seized and filled with a soul by living labour, increases with the advancing stages of accumulation.

Since past labour always disguises itself as capital, *i.e.*, since the passive of the labour of A, B, C, etc., takes the form of the active of the non-labourer X, bourgeois and political economists are full of praises of the services of dead and gone labour, which, according to the Scotch genius M'Culloch, ought to receive a special remuneration in the shape of interest, profit, etc.[1] The powerful and ever-increasing assistance given by

valeur." (l. c. p. 170.) An English economist remarks upon the conjuring tricks of the same nature that appear in Say's "Lettres": "Those affected ways of talking make up in general that which M. Say is pleased to call his doctrine and which he earnestly urges Malthus to teach at Hertford, as it is already taught 'dans plusieurs parties de l'Europe.' He says, 'Si vous trouvez une physionomie de paradoxe à toutes ces propositions, voyez les choses qu'elles expriment, et j'ose croire qu'elles vous paraîtront fort simples et fort raisonnables.' Doubtless, and in consequence of the same process, they will appear everything else, except original." (An Inquiry into those Principles respecting the Nature of Demand, &c., p. 116, 110.)

[1] M'Culloch took out a patent for "wages of past labour," long before Senior did for "wages of abstinence."

past labour to the living labour process under the form of means of production is, therefore, attributed to that form of past labour in which it is alienated, as unpaid labour, from the worker himself, *i.e.*, to its capitalistic form. The practical agents of capitalistic production and their pettifogging ideologists are as unable to think of the means of production as separate from the antagonistic social mask they wear to-day, as a slave-owner to think of the worker himself as distinct from his character as a slave.

With a given degree of exploitation of labour-power, the mass of the surplus-value produced is determined by the number of workers simultaneously exploited; and this corresponds, although in varying proportions, with the magnitude of the capital. The more, therefore, capital increases by means of successive accumulations, the more does the sum of the value increase that is divided into consumption-fund and accumulation-fund. The capitalist can, therefore, live a more jolly life, and at the same time show more "abstinence." And, finally, all the springs of production act with greater elasticity, the more its scale extends with the mass of the capital advanced.

SECTION 5.—THE SO-CALLED LABOUR FUND.

It has been shown in the course of this inquiry that capital is not a fixed magnitude, but is a part of social wealth, elastic and constantly fluctuating with the division of fresh surplus-value into revenue and additional capital. It has been seen further that, even with a given magnitude of functioning capital, the labour-power, the science, and the land (by which are to be understood, economically, all conditions of labour furnished by Nature independently of man), embodied in it, form elastic powers of capital, allowing it, within certain limits, a field of action independent of its own magnitude. In this inquiry we have neglected all effects of the process of circulation, effects which may produce very different degrees of efficiency in the same mass of capital. And as we pre-supposed the limits set by capitalist production, that is to say, pre-supposed the process of

social production in a form developed by purely spontaneous growth, we neglected any more rational combination, directly and systematically practicable with the means of production, and the mass of labour-power at present disposable. Classical economy always loved to conceive social capital as a fixed magnitude of a fixed degree of efficiency. But this prejudice was first established as a dogma by the arch-Philistine, Jeremy Bentham, that insipid, pedantic, leather-tongued oracle of the ordinary bourgeois intelligence of the 19th century.[1] Bentham is among philosophers what Martin Tupper is among poets. Both could only have been manufactured in England.[2] In the light of his dogma the commonest phenomena of the process of production, as, *e.g.*, its sudden expansions and contractions, nay, even accumulation itself, become perfectly inconceivable.[3] The dogma was used by Bentham himself, as well as by Malthus,

[1] Compare among others, Jeremy Bentham: "Théorie des Peines et des Récompenses, traduct. d'Et. Dumont, 3ème édit. Paris, 1826," p. II., L. IV., ch. II.

[2] Bentham is a purely English phenomenon. Not even excepting our philosopher, Christian Wolf, in no time and in no country has the most homespun common-place ever strutted about in so self-satisfied a way. The principle of utility was no discovery of Bentham. He simply reproduced in his dull way what Helvetius and other Frenchmen had said with esprit in the 18th century. To know what is useful for a dog, one must study dog-nature. This nature itself is not to be deduced from the principle of utility. Applying this to man, he that would criticise all human acts, movements, relations, etc., by the principle of utility, must first deal with human nature in general, and then with human nature as modified in each historical epoch. Bentham makes short work of it. With the dryest naïveté he takes the modern shopkeeper, especially the English shopkeeper, as the normal man. Whatever is useful to this queer normal man, and to his world, is absolutely useful. This yard-measure, then, he applies to past, present, and future. The Christian religion, *e.g.*, is "useful," because it forbids in the name of religion the same faults that the penal code condemns in the name of the law. Artistic criticism is "harmful," because it disturbs worthy people in their enjoyment of Martin Tupper, etc. With such rubbish has the brave fellow, with his motto, "nulla dies sine lineâ," piled up mountains of books. Had I the courage of my friend, Heinrich Heine, I should call Mr. Jeremy a genius in the way of bourgeois stupidity.

[3] "Political economists are too apt to consider a certain quantity of capital and a certain number of labourers as productive instruments of uniform power, or operating with a certain uniform intensity . . . Those . . . who maintain . . . that commodities are the sole agents of production . . . prove that production could never be enlarged, for it requires as an indispensable condition to such an enlargement that food, raw materials, and tools should be previously augmented; which is in fact maintaining that no increase of production can take place without a previous increase, or, in other words, that an increase is impossible." (S. Bailey: "Money and its vicissitudes," pp. 26 and 70.) Bailey criticises the dogma mainly from the point of view of the process of circulation.

James Mill, M'Culloch, etc., for an apologetic purpose, and especially in order to represent one part of capital, namely, variable capital, or that part convertible into labour-power, as a fixed magnitude. The material of variable capital, *i.e.*, the mass of the means of subsistence it represents for the labourer, or the so-called labour fund, was fabled as a separate part of social wealth, fixed by natural laws and unchangeable. To set in motion the part of social wealth which is to function as constant capital, or, to express it in a material form, as means of production, a definite mass of living labour is required. This mass is given technologically. But neither is the number of labourers required to render fluid this mass of labour-power given (it changes with the degree of exploitation of the individual labour-power), nor is the price of this labour-power given, but only its minimum limit, which is moreover very variable. The facts that lie at the bottom of this dogma are these: on the one hand, the labourer has no right to interfere in the division of social wealth into means of enjoyment for the non-labourer and means of production.[1] On the other hand, only in favourable and exceptional cases, has he the power to enlarge the so-called labour-fund at the expense of the "revenue" of the wealthy.

What silly tautology results from the attempt to represent the capitalistic limits of the labour-fund as its natural and social limits may be seen, *e.g.*, in Professor Fawcett.[2] "The circulating capital of a country," he says, "is its wage-fund. Hence, if we desire to calculate the average money wages received by each labourer, we have simply to divide the amount of this capital

[1] John Stuart Mill, in his "Principles of Political Economy," says: "The really exhausting and the really repulsive labours instead of being better paid than others, are almost invariably paid the worst of all . . . The more revolting the occupation, the more certain it is to receive the minimum of remuneration . . . The hardships and the earnings, instead of being directly proportional, as in any just arrangements of society they would be, are generally in an inverse ratio to one another." To avoid misunderstanding, let me say that although men e John Stuart Mill are to blame for the contradiction between their traditional economic dogmas and their modern tendencies, it would be very wrong to class them with the herd of vulgar economic apologists.

[2] H. Fawcett, Professor of Political Economy at Cambridge. "The Economic Position of the British Labourer." London, 1865, p. 120.

by the number of the labouring population."[1] That is to say, we first add together the individual wages actually paid, and then we affirm that the sum thus obtained, forms the total value of the "labour-fund" determined and vouchsafed to us by God and Nature. Lastly, we divide the sum thus obtained by the number of labourers to find out again how much may come to each on the average. An uncommonly knowing dodge this. It did not prevent Mr. Fawcett saying in the same breath: "The aggregate wealth which is annually saved in England, is divided into two portions; one portion is employed as capital to maintain our industry, and the other portion is exported to foreign countries . . . Only a portion, and perhaps, not a large portion of the wealth which is annually saved in this country, is invested in our own industry."[2]

The greater part of the yearly accruing surplus-product, embezzled, because abstracted without return of an equivalent, from the English labourer, is thus used as capital, not in England, but in foreign countries. But with the additional capital thus exported, a part of the "labour-fund" invented by God and Bentham is also exported.[3]

[1] I must here remind the reader that the categories, "variable and constant capital," were first used by me. Political Economy since the time of Adam Smith has confusedly mixed up the essential distinctions involved in these categories, with the mere formal differences, arising out of the process of circulation, of fixed and circulating capital. For further details on this point, see Book II., Part II.

[2] Fawcett, l. c. pp. 122, 123.

[3] It might be said that not only capital, but also labourers, in the shape of emigrants, are annually exported from England. In the text, however, there is no question of the peculium of the emigrants, who are in great part not labourers. Tho sons of farmers make up a great part of them. The additional capital annually transported abroad to be put out at interest is in much greater proportion to the annual accumulation than the yearly emigration is to the yearly increase of population.

CHAPTER XXV.

THE GENERAL LAW OF CAPITALIST ACCUMULATION.

SECTION 1.—THE INCREASED DEMAND FOR LABOUR-POWER THAT ACCOMPANIES ACCUMULATION, THE COMPOSITION OF CAPITAL REMAINING THE SAME.

In this chapter we consider the influence of the growth of capital on the lot of the labouring class. The most important factor in this inquiry, is the composition of capital and the changes it undergoes in the course of the process of accumulation.

The composition of capital is to be understood in a twofold sense. On the side of value, it is determined by the proportion in which it is divided into constant capital or value of the means of production, and variable capital or value of labour-power, the sum total of wages. On the side of material, as it functions in the process of production, all capital is divided into means of production and living labour-power. This latter composition is determined by the relation between the mass of the means of production employed, on the one hand, and the mass of labour necessary for their employment on the other. I call the former the *value-composition*, the latter the *technical composition* of capital. Between the two there is a strict correlation. To express this, I call the value-composition of capital, in so far as it is determined by its technical composition and mirrors the changes of the latter, the *organic composition* of capital. Wherever I refer to the composition of capital, without further qualification, its organic composition is always understood.

The many individual capitals invested in a particular branch of production have, one with another, more or less different compositions. The average of their individual compositions gives us the composition of the total capital in this branch of production. Lastly, the average of these averages, in all branches of production, gives us the composition of the total

social capital of a country, and with this alone are we, in the last resort, concerned in the following investigation.

Growth of capital involves growth of its variable constituent or of the part invested in labour-power. A part of the surplus-value turned into additional capital must always be re-transformed into variable capital, or additional labour-fund. If we suppose that, all other circumstances remaining the same, the composition of capital also remains constant (*i.e.*, that a definite mass of means of production constantly needs the same mass of labour-power to set it in motion), then the demand for labour and the subsistence-fund of the labourers clearly increase in the same proportion as the capital, and the more rapidly, the more rapidly the capital increases. Since the capital produces yearly a surplus-value, of which one part is yearly added to the original capital; since this increment itself grows yearly along with the augmentation of the capital already functioning; since lastly, under special stimulus to enrichment, such as the opening of new markets, or of new spheres for the outlay of capital in consequence of newly developed social wants, &c., the scale of accumulation may be suddenly extended, merely by a change in the division of the surplus-value or surplus-product into capital and revenue, the requirements of accumulating capital may exceed the increase of labour-power or of the number of labourers; the demand for labourers may exceed the supply, and, therefore, wages may rise. This must, indeed, ultimately be the case if the conditions supposed above continue. For since in each year more labourers are employed than in its predecessor, sooner or later a point must be reached, at which the requirements of accumulation begin to surpass the customary supply of labour, and, therefore, a rise of wages takes place. A lamentation on this score was heard in England during the whole of the fifteenth, and the first half of the eighteenth centuries. The more or less favourable circumstances in which the wage-working class supports and multiplies itself, in no way alter the fundamental character of capitalist production. As simple reproduction constantly reproduces the capital-relation itself, *i.e.*, the relation of capitalists on the one hand, and wage-

workers on the other, so reproduction on a progressive scale, *i.e.* accumulation, reproduces the capital-relation on a progressive scale, more capitalists or larger capitalists at this pole, more wage-workers at that. The reproduction of a mass of labour-power, which must incessantly re-incorporate itself with capital for that capital's self-expansion; which cannot get free from capital, and whose enslavement to capital is only concealed by the variety of individual capitalists to whom it sells itself, this reproduction of labour-power forms, in fact, an essential of the reproduction of capital itself. Accumulation of capital is, therefore, increase of the proletariat.[1]

Classical economy grasped this fact so thoroughly that Adam Smith, Ricardo, &c., as mentioned earlier, inaccurately identified accumulation with the consumption, by the productive labourers, of all the capitalised part of the surplus-product, or with its transformation into additional wage-labourers. As early as 1696 John Bellers says: "For if one had a hundred thousand acres of land and as many pounds in money, and as many cattle, without a labourer, what would the rich man be, but a labourer? And as the labourers make men rich, so the more labourers, there will be the more rich men . . . the labour of the poor being the mines of the rich."[2] So also Bernard de Mandeville at the beginning of the eighteenth century: "It would be easier, where property is well secured, to live without money than without poor; for who would do the work? . . . . As they [the poor] ought to be kept from starving, so they should receive nothing worth saving. If here and there

[1] Karl Marx, l. c. "A égalité d'oppression des masses, plus un pays a de prolétaires et plus il est riche." (Colins. L'Economie politique, Source des Révolutions et des Utopies prétendues Socialistes. Paris, 1857, t. III. p. 331.) Our "proletarian" is economically none other than the wage-labourer, who produces and increases capital, and is thrown out on the streets, as soon as he is superfluous for the needs of aggrandisement of "Monsieur capital," as Pecqueur calls this person. "The sickly proletarian of the primitive forest," is a pretty Roscherian fancy. The primitive forester is owner of the primitive forest, and uses the primitive forest as his property with the freedom of an orang-utang. He is not, therefore, a proletarian. This would only be the case, if the primitive forest exploited him, instead of being exploited by him. As far as his health is concerned, such a man would well bear comparison, not only with the modern proletarian, but also with the syphilitic and scrofulous upper classes. But, no doubt, Herr Wilhelm Roscher, by "primitive forest" means his native heath of Lüneburg.

[2] John Bellers, l. c. p. 2.

one of the lowest class by uncommon industry, and pinching his belly, lifts himself above the condition he was brought up in, nobody ought to hinder him; nay, it is undeniably the wisest course for every person in the society, and for every private family to be frugal; but it is the interest of all rich nations, that the greatest part of the poor should almost never be idle, and yet continually spend what they get . . . Those that get their living by their daily labour . . . have nothing to stir them up to be serviceable but their wants which it is prudence to relieve, but folly to cure. The only thing then that can render the labouring man industrious, is a moderate quantity of money, for as too little will, according as his temper is, either dispirit or make him desperate, so too much will make him insolent and lazy. . . From what has been said, it is manifest, that, in a free nation, where slaves are not allowed of, the surest wealth consists in a multitude of laborious poor; for besides, that they are the never-failing nursery of fleets and armies, without them there could be no enjoyment, and no product of any country could be valuable. To make the society" [which of course consists of non-workers] "happy and people easier under the meanest circumstances, it is requisite that great numbers of them should be ignorant as well as poor; knowledge both enlarges and multiplies our desires, and the fewer things a man wishes for, the more easily his necessities may be supplied."[1] What Mandeville, an honest, clear-headed man, had not yet seen, is that the mechanism of the process of accumulation itself increases, along with the capital, the mass of "labouring poor," *i.e.*, the wage-labourers, who turn their labour-power into an increasing power of self-expansion of the growing capital, and even by doing so must eternize their dependent relation on their own product, as personified in the capitalists. In reference to this relation of dependence, Sir F. M. Eden in his "The State of

[1] Bernard de Mandeville: "The Fable of the Bees," 5th edition, London, 1728. Remarks, pp. 212, 213, 328. "Temperate living and constant employment is the direct road, for the poor, to rational happiness" [by which he most probably means long working days and little means of subsistence], "and to riches and strength for the state" (viz., for the landlords, capitalists, and their political dignitaries and agents). (An Essay on Trade and Commerce, London, 1770, p. 54.)

the Poor, an History of the Labouring Classes in England," says, "the natural produce of our soil is certainly not fully adequate to our subsistence; we can neither be clothed, lodged nor fed but in consequence of some previous labour. A portion at least of the society must be indefatigably employed. . . There are others who, though they 'neither toil nor spin,' can yet command the produce of industry, but who owe their exemption from labour solely to civilisation and order. . . They are peculiarly the creatures of civil institutions,[1] which have recognised that individuals may acquire property by various other means besides the exertion of labour. . . Persons of independent fortune . . . owe their superior advantages by no means to any superior abilities of their own, but almost entirely . . . to the industry of others. It is not the possession of land, or of money, but the command of labour which distinguishes the opulent from the labouring part of the community. . . This [scheme approved by Eden] would give the people of property sufficient (but by no means too much) influence and authority over those who . . . work for them; and it would place such labourers, not in an abject or servile condition, but in such a state of easy and liberal dependence as all who know human nature, and its history, will allow to be necessary for their own comfort."[2] Sir F. M. Eden, it may be remarked in passing, is the only disciple of Adam Smith during the eighteenth century that produced any work of importance.[3]

[1] Eden should have asked, whose creatures then are "the civil institutions?" From his standpoint of juridical illusion, he does not regard the law as a product of the material relations of production, but conversely the relations of production as products of the law. Linguet overthrew Montesquieu's illusory "Esprit des lois" with one word; "L'esprit des lois, c'est la propriété."

[2] Eden l. c. Vol. I, book I. chapter I. pp. 1, 2, and preface, p. xx.

[3] If the reader reminds me of Malthus, whose "Essay on Population" appeared in 1798, I remind him that this work in its first form is nothing more than a schoolboyish, superficial plagiary of De Foe, Sir James Steuart, Townsend, Franklin, Wallace, &c., and does not contain a single sentence thought out by himself. The great sensation this pamphlet caused, was due solely to party interest. The French Revolution had found passionate defenders in the United Kingdom; the "principle of population," slowly worked-out in the eighteenth century, and then, in the midst of a great social crisis, proclaimed with drums and trumpets as the infallible antidote to the teachings of Condorcet, &c., was greeted with jubilance by the English oligarchy as the great destroyer of all hankerings after human development. Malthus,

Under the conditions of accumulation supposed thus far, which conditions are those most favourable to the labourers, their relation of dependence upon capital takes on a form endurable, or, as Eden says: "easy and liberal." Instead of becoming more intensive with the growth of capital, this relation

hugely astonished at his success, gave himself to stuffing into his book materials superficially compiled, and adding to it new matter, not discovered but annexed by him. Note further: Although Malthus was a parson of the English State Church, he had taken the monastic vow of celibacy—one of the conditions of holding a Fellowship in Protestant Cambridge University: "Socios collegiorum maritos esse non permittimus, sed statim postquam quis uxorem duxerit, socius collegii desinat esse." (Reports of Cambridge University Commission, p. 172.) This circumstance favourably distinguishes Malthus from the other Protestant parsons, who have shuffled off the command enjoining celibacy of the priesthood and have taken, "Be fruitful and multiply," as their special Biblical mission in such a degree that they generally contribute to the increase of population to a really unbecoming extent, whilst they preach at the same time to the labourers the "principle of population." It is characteristic that the economic fall of man, the Adam's apple, the urgent appetite, "the checks which tend to blunt the shafts of Cupid," as Parson Townsend waggishly puts it, that this delicate question was and is monopolised by the Reverends of Protestant Theology, or rather of the Protestant Church. With the exception of the Venetian monk, Ortes, an original and clever writer, most of the population-theory teachers are Protestant parsons. For instance, Bruckner, "Théorie du Système animal," Leyden, 1767, in which the whole subject of the modern population theory is exhausted, and to which the passing quarrel between Quesnay and his pupil, the elder Mirabeau, furnished ideas on the same topic; then Parson Wallace, Parson Townsend, Parson Malthus and his pupil, the arch-Parson Thomas Chalmers, to say nothing of lesser reverend scribblers in this line. Originally, political economy was studied by philosophers like Hobbes, Locke, Hume; by business men and statesmen, like Thomas More, Temple, Sully, De Witt, North, Law, Vanderlint, Cantillon, Franklin; and especially, and with the greatest success, by medical men like Petty, Barbon, Mandeville, Quesnay. Even in the middle of the eighteenth century, the Rev. Mr. Tucker, a notable economist of his time, excused himself for meddling with the things of Mammon. Later on, and in truth with this very "principle of population," struck the hour of the Protestant parsons. Petty, who regarded the population as the basis of wealth, and was, like Adam Smith, an outspoken foe to parsons, says, as if he had a presentiment of their bungling interference, "that Religion best flourishes when the Priests are most mortified, as was before said of the Law, which best flourisheth when lawyers have least to do." He advises the Protestant priests, therefore, if they, once for all, will not follow the Apostle Paul and "mortify" themselves by celibacy, "not to breed more Churchmen than the Benefices, as they now stand shared out, will receive, that is to say, if there be places for about twelve thousand in England and Wales, it will not be safe to breed up 24000 ministers, for then the twelve thousand which are unprovided for, will seek ways how to get themselves a livelihood, which they cannot do more easily then by persuading the people that the twelve thousand incumbents do poison or starve their souls, and misguide them in their way to Heaven." (Petty; "A Treatise on Taxes and Contributions London, 1667," p. 57.) Adam's Smith's position with the Protestant priesthood of his time is shown by the following. In "A Letter to A. Smith, L.L.D. On the

of dependence only becomes more extensive, *i.e.*, the sphere of capital's exploitation and rule merely extends with its own dimensions and the number of its subjects. A larger part of their own surplus-product, always increasing and continually transformed into additional capital, comes back to them in the shape of means of payment, so that they can extend the circle of their enjoyments; can make some additions to their consumption-fund of clothes, furniture, &c., and can lay by small reserve-funds of money. But just as little as better clothing, food, and treatment, and a larger peculium, do away with the exploitation of the slave, so little do they set aside that of the wage-worker. A rise in the price of labour, as a consequence of accumulation of capital, only means, in fact, that the length and weight of the golden chain the wage-worker has already forged for himself, allow of a relaxation of the tension of it. In the controversies on this subject the chief fact has generally

Life, Death and Philosophy of his Friend, David Hume. By one of the People called Christians, 4th Edition, Oxford, 1784," Dr. Horne, Bishop of Norwich, reproves Adam Smith, because in a published letter to Mr. Strahan, he "embalmed his friend David" (sc. Hume); because he told the world how "Hume amused himself on his deathbed with Lucian and Whist," and because he even had the impudence to write of Hume: "I have always considered him, both in his life-time and since his death, as approaching as nearly to the idea of a perfectly wise and virtuous man, as, perhaps, the nature of human frailty will permit." The bishop cries out, in a passion: "Is it right in you, Sir, to hold up to our view as 'perfectly wise and virtuous,' the *character* and *conduct* of one, who seems to have been possessed with an incurable antipathy to all that is called *Religion*; and who strained every nerve to explode, suppress and extirpate the spirit of it among men, that it's very name, if he could effect it, might no more be had in remembrance?" (l. c. p. 6). "But let not the lovers of truth be discouraged. Atheism cannot be of long continuance." (p. 17.) Adam Smith, "had the atrocious wickedness to propagate atheism through the land (viz. by his "Theory of moral sentiments.") Upon the whole, Doctor, your meaning is good; but I think you will not succeed this time. You would persuade us, by the example of *David Hume, Esq.*, that atheism is the only cordial for low spirits, and the proper antidote against the fear of death. . . You may smile over *Babylon* in ruins and congratulate the hardened *Pharaoh* on his overthrow in the Red Sea.' (l. c. pp. 21, 22.) One orthodox individual, amongst Adam Smith's college friends, writes after his death: "Smith's well-placed affection for Hume . . . hindered him from being a Christian. . . When he met with honest men whom he liked . . . he would believe almost anything they said. Had he been a friend of the worthy ingenious Horrox he would have believed that the moon sometimes disappeared in a clear sky without the interposition of a cloud. . . He approached to republicanism in his political principles." (The Bee. By James Anderson, 18 Vols., Vol 3, pp. 165, 164, Edinburgh, 1791-93.) Parson Thomas Chalmers has his suspicions as to Adam Smith having invented the category of "unproductive labourers," solely for the Protestant parsons, in spite of their blessed work in the vineyard of the Lord.

been overlooked, viz., the *differentia specifica* of capitalistic production. Labour-power is sold to-day, not with a view of satisfying, by its service or by its product, the personal needs of the buyer. His aim is augmentation of his capital, production of commodities containing more labour than he pays for, containing therefore a portion of value that costs him nothing, and that is nevertheless realised when the commodities are sold. Production of surplus-value is the absolute law of this mode of production. Labour-power is only saleable so far as it preserves the means of production in their capacity of capital, reproduces its own value as capital, and yields in unpaid labour a source of additional capital.[1] The conditions of its sale, whether more or less favourable to the labourer, include therefore the necessity of its constant re-selling, and the constantly extended reproduction of all wealth in the shape of capital. Wages, as we have seen, by their very nature, always imply the performance of a certain quantity of unpaid labour on the part of the labourer. Altogether, irrespective of the case of a rise of wages with a falling price of labour, &c., such an increase only means at best a quantitative diminution of the unpaid labour that the worker has to supply. This diminution can never reach the point at which it would threaten the system itself. Apart from violent conflicts as to the rate of wages (and Adam Smith has already shown that in such a conflict, taken on the whole, the master is always master), a rise in the price of labour resulting from accumulation of capital implies the following alternative:

Either the price of labour keeps on rising, because its rise does not interfere with the progress of accumulation. In this there is nothing wonderful, for, says Adam Smith, "after these (profits) are diminished, stock may not only continue to increase, but to increase much faster than before. . . . . A great stock, though with small profits, generally increases faster than a small stock with great profits." (l. c. ii., p. 189.)

[1] "The limit, however, to the employment of both the operative aud the labourer is the same; namely, the possibility of the employer realising a *profit* on the produce of their industry. If the rate of wages is such as to reduce the master's gains below the average profit of capital, he will cease to employ them, or he will only employ them on condition of submission to a reduction of wages." (John Wade, l. c., p. 241).

In this case it is evident that a diminution in the unpaid labour in no way interferes with the extension of the domain of capital.—Or, on the other hand, accumulation slackens in consequence of the rise in the price of labour, because the stimulus of gain is blunted. The rate of accumulation lessens; but with its lessening, the primary cause of that lessening vanishes, *i.e.*, the disproportion between capital and exploitable labour-power. The mechanism of the process of capitalist production removes the very obstacles that it temporarily creates. The price of labour falls again to a level corresponding with the needs of the self-expansion of capital, whether the level be below, the same as, or above the one which was normal before the rise of wages took place. We see thus: In the first case, it is not the diminished rate either of the absolute, or of the proportional, increase in labour-power, or labouring population, which causes capital to be in excess, but conversely the excess of capital that makes exploitable labour-power insufficient. In the second case, it is not the increased rate either of the absolute, or of the proportional, increase in labour-power, or labouring population, that makes capital insufficient; but, conversely, the relative diminution of capital that causes the exploitatable labour-power, or rather its price, to be in excess. It is these absolute movements of the accumulation of capital which are reflected as relative movements of the mass of exploitable labour-power, and therefore seem produced by the latter's own independent movement. To put it mathematically: the rate of accumulation is the independent, not the dependent, variable; the rate of wages, the dependent, not the independent, variable. Thus, when the industrial cycle is in the phase of crisis, a general fall in the price of commodities is expressed as a rise in the value of money, and, in the phase of prosperity, a general rise in the price of commodities, as a fall in the value of money. The so-called currency school concludes from this that with high prices too little, with low prices too much money is in circulation. Their ignorance and complete misunderstanding of facts[1] are worthily paralleled by the economists,

[1] Cf. Karl Marx: Zur Kritik der Politischen Oekonomie, pp. 166, seq.

who interpret the above phenomena of accumulation by saying that there are now too few, now too many wage labourers.

The law of capitalist production, that is at the bottom of the pretended "natural law of population," reduces itself simply to this: The correlation between accumulation of capital and rate of wages is nothing else than the correlation between the unpaid labour transformed into capital, and the additional paid labour necessary for the setting in motion of this additional capital. It is therefore in no way a relation between two magnitudes, independent one of the other: on the one hand, the magnitude of the capital; on the other, the number of the labouring population; it is rather, at bottom, only the relation between the unpaid and the paid labour of the same labouring population. If the quantity of unpaid labour supplied by the working-class, and accumulated by the capitalist class, increases so rapidly that its conversion into capital requires an extraordinary addition of paid labour, then wages rise, and, all other circumstances remaining equal, the unpaid labour diminishes in proportion. But as soon as this diminution touches the point at which the surplus-labour that nourishes capital is no longer supplied in normal quantity, a reaction sets in: a smaller part of revenue is capitalised, accumulation lags, and the movement of rise in wages receives a check. The rise of wages therefore is confined within limits that not only leave intact the foundations of the capitalistic system, but also secure its reproduction on a progressive scale. The law of capitalistic accumulation, metamorphosed by economists into a pretended law of nature, in reality merely states that the very nature of accumulation excludes every diminution in the degree of exploitation of labour, and every rise in the price of labour, which could seriously imperil the continual reproduction, on an ever enlarging scale, of the capitalistic relation. It cannot be otherwise in a mode of production in which the labourer exists to satisfy the needs of self-expansion of existing values, instead of, on the contrary, material wealth existing to satisfy the needs of development on the part of the labourer. As, in religion, man is governed by the products of

his own brain, so in capitalistic production, he is governed by the products of his own hand.[1]

SECTION 2.—RELATIVE DIMINUTION OF THE VARIABLE PART OF CAPITAL SIMULTANEOUSLY WITH THE PROGRESS OF ACCUMULATION AND OF THE CONCENTRATION THAT ACCOMPANIES IT.

According to the economists themselves, it is neither the actual extent of social wealth, nor the magnitude of the capital already functioning, that lead to a rise of wages, but only the constant growth of accumulation and the degree of rapidity of that growth. (Adam Smith, Book I., chapter 8.) So far, we have only considered one special phase of this process, that in which the increase of capital occurs along with a constant technical composition of capital. But the process goes beyond this phase.

Once given the general basis of the capitalistic system, then, in the course of accumulation, a point is reached at which the development of the productivity of social labour becomes the most powerful lever of accumulation. "The same cause," says Adam Smith, "which raises the wages of labour, the increase of stock, tends to increase its productive powers, and to make a smaller quantity of labour produce a greater quantity of work."

Apart from natural conditions, such as fertility of the soil, &c., and from the skill of independent and isolated producers (shown rather qualitatively in the goodness than quantitatively in the mass of their products), the degree of productivity of labour, in a given society, is expressed in the relative extent of the means of production that one labourer, during a given time, with the same tension of labour-power, turns into products. The mass of the means of production which he thus transforms, increases with the productiveness of his labour.

[1] "If we now return to our first inquiry, wherein it was shown that capital itself is only the result of human labour . . . . . it seems quite incomprehensible that man can have fallen under the domination of capital, his own product; can be subordinated to it; and as in reality this is beyond dispute the case, involuntarily the question arises: How has the labourer been able to pass from being master of capital—as its creator—to being its slave?" (Von Thünen. "Der isolirte Staat." Part ii., Section ii. Rostock, 1863, pp. 5, 6.) It is Thünen's merit to have asked this question. His answer is simply childish.

But those means of production play a double part. The increase of some is a consequence, that of the others a condition of the increasing productivity of labour. *E.g.*, with the division of labour in manufacture, and with the use of machinery, more raw material is worked up in the same time, and, therefore, a greater mass of raw material and auxiliary substances enter into the labour-process. That is the consequence of the increasing productivity of labour. On the other hand, the mass of machinery, beasts of burden, mineral manures, drain-pipes, &c., is a condition of the increasing productivity of labour. So also is it with the means of production concentrated in buildings, furnaces, means of transport, &c. But whether condition or consequence, the growing extent of the means of production, as compared with the labour-power incorporated with them, is an expression of the growing productiveness of labour. The increase of the latter appears, therefore, in the diminution of the mass of labour in proportion to the mass of means of production moved by it, or in the diminution of the subjective factor of the labour process as compared with the objective factor.

This change in the technical composition of capital, this growth in the mass of means of production, as compared with the mass of the labour-power that vivifies them, is reflected again in its value-composition, by the increase of the constant constituent of capital at the expense of its variable constituent. There may be, *e.g.*, originally 50 per cent. of a capital laid out in means of production, and 50 per cent. in labour-power; later on, with the development of the productivity of labour, 80 per cent. in means of production, 20 per cent. in labour-power, and so on. This law of the progressive increase in constant capital, in proportion to the variable, is confirmed at every step (as already shown) by the comparative analysis of the prices of commodities, whether we compare different economic epochs or different nations in the same epoch. The relative magnitude of the element of price, which represents the value of the means of production only, or the constant part of capital consumed, is in direct, the relative magnitude of the other element of price that pays labour (the variable part of

capital) is in inverse proportion to the advance of accumulation.

This diminution in the variable part of capital as compared with the constant, or the altered value-composition of the capital, however, only shows approximately the change in the composition of its material constituents. If, *e.g.*, the capital-value employed to-day in spinning is $\frac{7}{8}$ constant and $\frac{1}{8}$ variable, whilst at the beginning of the 18th century it was $\frac{1}{2}$ constant and $\frac{1}{2}$ variable, on the other hand, the mass of raw material, instruments of labour, &c., that a certain quantity of spinning labour consumes productively to-day, is many hundred times greater than at the beginning of the 18th century. The reason is simply that, with the increasing productivity of labour, not only does the mass of the means of production consumed by it increase, but their value compared with their mass diminishes. Their value therefore rises absolutely, but not in proportion to their mass. The increase of the difference between constant and variable capital is, therefore, much less than that of the difference between the mass of the means of production into which the constant, and the mass of the labour-power into which the variable, capital is converted. The former difference increases with the latter, but in a smaller degree.

But, if the progress of accumulation lessens the relative magnitude of the variable part of capital, it by no means, in doing this, excludes the possibility of a rise in its absolute magnitude. Suppose that a capital-value at first is divided into 50 per cent. of constant and 50 per cent. of variable capital; later into 80 per cent. of constant and 20 per cent. of variable. If in the meantime the original capital, say £6,000, has increased to £18,000, its variable constituent has also increased. It was £3,000, it is now £3,600. But whereas formerly an increase of capital by 20 per cent. would have sufficed to raise the demand for labour 20 per cent., now this latter rise requires a tripling of the original capital.

In Part IV. it was shown, how the development of the productiveness of social labour presupposes co-operation on a large scale; how it is only upon this supposition that division and combination of labour can be organised, and the means

of production economised by concentration on a vast scale; how instruments of labour which, from their very nature, are only fit for use in common, such as a system of machinery, can be called into being; how huge natural forces can be pressed into the service of production; and how the transformation can be effected of the process of production into a technological application of science. On the basis of the production of commodities, where the means of production are the property of private persons, and where the artisan therefore either produces commodities, isolated from and independent of others, or sells his labour-power as a commodity, because he lacks the means for independent industry, co-operation on a large scale can realise itself only in the increase of individual capitals, only in proportion as the means of social production and the means of subsistence are transformed into the private property of capitalists. The basis of the production of commodities can admit of production on a large scale in the capitalistic form alone. A certain accumulation of capital, in the hands of individual producers of commodities, forms therefore the necessary preliminary of the specifically capitalistic mode of production. We had, therefore, to assume that this occurs during the transition from handicraft to capitalistic industry. It may be called primitive accumulation, because it is the historic basis, instead of the historic result of specifically capitalist production. How it itself originates, we need not here inquire as yet. It is enough that it forms the starting-point. But all methods for raising the social productive power of labour that are developed on this basis, are at the same time methods for the increased production of surplus-value or surplus-product, which in its turn is the formative element of accumulation. They are, therefore, at the same time methods of the production of capital by capital, or methods of its accelerated accumulation. The continual re-transformation of surplus-value into capital now appears in the shape of the increasing magnitude of the capital that enters into the process of production. This in turn is the basis of an extended scale of production, of the methods for raising the productive power of labour that accompany it, and of accelerated production of surplus-value. If,

therefore, a certain degree of accumulation of capital appears as a condition of the specifically capitalist mode of production, the latter causes conversely an accelerated accumulation of capital. With the accumulation of capital, therefore, the specifically capitalistic mode of production developes, and with the capitalist mode of production the accumulation of capital. Both these economic factors bring about, in the compound ratio of the impulses they reciprocally give one another, that change in the technical composition of capital by which the variable constituent becomes always smaller and smaller as compared with the constant.

Every individual capital is a larger or smaller concentration of means of production, with a corresponding command over a larger or smaller labour-army. Every accumulation becomes the means of new accumulation. With the increasing mass of wealth which functions as capital, accumulation increases the concentration of that wealth in the hands of individual capitalists, and thereby widens the basis of production on a large scale and of the specific methods of capitalist production. The growth of social capital is effected by the growth of many individual capitals. All other circumstances remaining the same, individual capitals, and with them the concentration of the means of production, increase in such proportion as they form aliquot parts of the total social capital. At the same time portions of the original capitals disengage themselves and function as new independent capitals. Besides other causes, the division of property, within capitalist families, plays a great part in this. With the accumulation of capital, therefore, the number of capitalists grows to a greater or less extent. Two points characterise this kind of concentration which grows directly out of, or rather is identical with, accumulation. First: The increasing concentration of the social means of production in the hands of individual capitalists is, other things remaining equal, limited by the degree of increase of social wealth. Second: The part of social capital domiciled in each particular sphere of production is divided among many capitalists who face one another as independent commodity-producers competing with each other. Accumulation and the

concentration accompanying it are, therefore, not only scattered over many points, but the increase of each functioning capital is thwarted by the formation of new and the sub-division of old capitals. Accumulation, therefore, presents itself on the one hand as increasing concentration of the means of production, and of the command over labour; on the other, as repulsion of many individual capitals one from another.

This splitting-up of the total social capital into many individual capitals or the repulsion of its fractions one from another, is counteracted by their attraction. This last does not mean that simple concentration of the means of production and of the command over labour, which is identical with accumulation. It is concentration of capitals already formed, destruction of their individual independence, expropriation of capitalist by capitalist, transformation of many small into few large capitals. This process differs from the former in this, that it only presupposes a change in the distribution of capital already to hand, and functioning; its field of action is therefore not limited by the absolute growth of social wealth, by the absolute limits of accumulation. Capital grows in one place to a huge mass in a single hand, because it has in another place been lost by many. This is centralisation proper, as distinct from accumulation and concentration.

The laws of this centralisation of capitals, or of the attraction of capital by capital, cannot be developed here. A brief hint at a few facts must suffice. The battle of competition is fought by cheapening of commodities. The cheapness of commodities depends, *cæteris paribus*, on the productiveness of labour, and this again on the scale of production. Therefore, the larger capitals beat the smaller. It will further be remembered that, with the development of the capitalist mode of production, there is an increase in the minimum amount of individual capital necessary to carry on a business under its normal conditions. The smaller capitals, therefore, crowd into spheres of production which Modern Industry has only sporadically or incompletely got hold of. Here competition rages in direct proportion to the number, and in inverse proportion to the magnitudes, of the antagonistic capitals. It always ends

in the ruin of many small capitalists, whose capitals partly pass into the hand of their conquerors, partly vanish. Apart from this, with capitalist production an altogether new force comes into play—the credit system. Not only is this itself a new and mighty weapon in the battle of competition. By unseen threads it, moreover, draws the disposable money, scattered in larger or smaller masses over the surface of society, into the hands of individual or associated capitalists. It is the specific machine for the centralisation of capitals.

The centralisation of capitals or the process of their attraction becomes more intense, in proportion as the specifically capitalist mode of production developes along with accumulation. In its turn, centralisation becomes one of the greatest levers of this development. It shortens and quickens the transformation of separate processes of production into processes socially combined and carried out on a large scale.

The increasing bulk of individual masses of capital becomes the material basis of an uninterrupted revolution in the mode of production itself. Continually the capitalist mode of production conquers branches of industry not yet wholly, or only sporadically, or only formally, subjugated by it. At the same time there grow up on its soil new branches of industry, such as could not exist without it. Finally, in the branches of industry already carried on upon the capitalist basis, the productiveness of labour is made to ripen, as if in a hothouse. In all these cases, the number of labourers falls in proportion to the mass of the means of production worked up by them. An ever increasing part of the capital is turned into means of production, an ever decreasing one into labour-power. With the extent, the concentration and the technical efficiency of the means of production, the degree lessens progressively, in which the latter are means of employment for labourers. A steam plough is an incomparably more efficient means of production than an ordinary plough, but the capital-value laid out in it is an incomparably smaller means for employing men than if it were laid out in ordinary ploughs. At first, it is the mere adding of new capital to old, which allows of the expansion and technical revolution of the material conditions

of the process of production. But soon the change of composition and the technical transformation get more or less completely hold of all old capital that has reached the term of its reproduction, and therefore has to be replaced. This metamorphosis of old capital is independent, to a certain extent, of the absolute growth of social capital, in the same way as its centralisation. But this centralisation which only redistributes the social capital already to hand, and melts into one a number of old capitals, works in its turn as a powerful agent in this metamorphosis of old capital.

On the one hand, therefore, the additional capital formed in the course of accumulation attracts fewer and fewer labourers in proportion to its magnitude. On the other hand, the old capital periodically reproduced with change of composition, repels more and more of the labourers formerly employed by it.

SECTION 3.—PROGRESSIVE PRODUCTION OF A RELATIVE SURPLUS-POPULATION OR INDUSTRIAL RESERVE ARMY.

The accumulation of capital, though originally appearing as its quantitative extension only, is effected, as we have seen, under a progressive qualitative change in its composition, under a constant increase of its constant, at the expense of its variable constituent.[1]

The specifically capitalist mode of production, the development of the productive power of labour corresponding to it, and the change thence resulting in the organic composition of capital, do not merely keep pace with the advance of accumulation, or with the growth of social wealth. They develop at a much quicker rate, because mere accumulation, the absolute increase of the total social capital, is accompanied by the centralisation of the individual capitals of which that total is

[1] Note to the 3rd edition. In Marx's copy there is here the marginal note: "Here note for working out later; if the extension is only quantitative, then for a greater and a smaller capital in the same branch of business the profits are as the magnitudes of the capitals advanced. If the quantitative extension induces qualitative change, then the rate of profit on the larger capital rises simultaneously."

made up; and because the change in the technological composition of the additional capital goes hand in hand with a similar change in the technological composition of the original capital. With the advance of accumulation, therefore, the proportion of constant to variable capital changes. If it was originally say 1 : 1, it now becomes successively 2 : 1, 3 : 1, 4 : 1, 5 : 1, 7 : 1, &c., so that, as the capital increases, instead of $\frac{1}{2}$ of its total value, only $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, &., is transformed into labour-power, and, on the other hand, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$, $\frac{5}{6}$, $\frac{7}{8}$ into means of production. Since the demand for labour is determined not by the amount of capital as a whole, but by its variable constituent alone, that demand falls progressively with the increase of the total capital, instead of, as previously assumed, rising in proportion to it. It falls relatively to the magnitude of the total capital, and at an accelerated rate, as this magnitude increases. With the growth of the total capital, its variable constituent or the labour incorporated in it, also does increase, but in a constantly diminishing proportion. The intermediate pauses are shortened, in which accumulation works as simple extension of production, on a given technical basis. It is not merely that an accelerated accumulation of total capital, accelerated in a constantly growing progression, is needed to absorb an additional number of labourers, or even, on account of the constant metamorphosis of old capital, to keep employed those already functioning. In its turn, this increasing accumulation and centralisation becomes a source of new changes in the composition of capital, of a more accelerated diminution of its variable, as compared with its constant constituent. This accelerated relative diminution of the variable constituent, that goes along with the accelerated increase of the total capital, and moves more rapidly than this increase, takes the inverse form, at the other pole, of an apparently absolute increase of the labouring population, an increase always moving more rapidly than that of the variable capital or the means of employment. But in fact, it is capitalistic accumulation itself that constantly produces, and produces in the direct ratio of its own energy and extent, a relatively redundant population of labourers, *i.e.*, a population of greater extent than suffices

for the average needs of the self-expansion of capital, and therefore a surplus-population.

Considering the social capital in its totality, the movement of its accumulation now causes periodical changes, affecting it more or less as a whole, now distributes its various phases simultaneously over the different spheres of production. In some spheres a change in the composition of capital occurs without increase of its absolute magnitude, as a consequence of simple centralisation; in others the absolute growth of capital is connected with absolute diminution of its variable constituent, or of the labour-power absorbed by it; in others again, capital continues growing for a time on its given technical basis, and attracts additional labour-power in proportion to its increase, while at other times it undergoes organic change, and lessens its variable constituent; in all spheres, the increase of the variable part of capital, and therefore of the number of labourers employed by it, is always connected with violent fluctuations and transitory production of surplus-population, whether this takes the more striking form of the repulsion of labourers already employed, or the less evident but not less real form of the more difficult absorption of the additional labouring population through the usual channels.[1] With the magnitude of social capital already functioning, and the degree of its increase, with the extension of the scale of

[1] The census of England and Wales shows: all persons employed in agriculture (landlords, farmers, gardeners, shepherds, &c., included): 1851, 2,011,447: 1861, 1,924,110. Fall, 87,337. Worsted manufacture: 1851, 102,714 persons: 1861, 79,242. Silk weaving: 1851, 111,940: 1861, 101,678. Calico-printing: 1851, 12,098: 1861, 12,556. A small rise that, in the face of the enormous extension of this industry and implying a great fall proportionally in the number of labourers employed. Hat-making: 1851, 15,957: 1861, 13,814. Straw-hat and bonnet-making: 1851, 20,393: 1861, 18,176. Malting: 1851, 10,566: 1861, 10,677. Chandlery, 1851, 4949: 1861, 4686. This fall is due, besides other causes, to the increase in lighting by gas. Comb-making: 1851, 2,038: 1861, 1,478. Sawyers: 1851, 30,552: 1861, 31,647—a small rise in consequence of the increase of sawing-machines. Nail-making: 1851, 26,940: 1861, 26,130—fall in consequence of the competition of machinery. Tin and copper-mining: 1851, 31,360: 1861, 32,041. On the other hand: Cotton-spinning and weaving: 1851, 371,777: 1861, 456,646. Coal-mining: 1851, 183,389: 1861, 246,613. "The increase of labourers is generally greatest, since 1851, in such branches of industry in which machinery has not up to the present been employed with success." (Census of England and Wales for 1862. Vol III. London, 1863, p. 36.)

production, and the mass of the labourers set in motion, with the development of the productiveness of their labour, with the greater breadth and fulness of all sources of wealth, there is also an extension of the scale on which greater attraction of labourers by capital is accompanied by their greater repulsion; the rapidity of the change in the organic composition of capital, and in its technical form increases, and an increasing number of spheres of production becomes involved in this change, now simultaneously, now alternately. The labouring population therefore produces, along with the accumulation of capital produced by it, the means by which itself is made relatively superfluous, is turned into a relative surplus population; and it does this to an always increasing extent.[1] This is a law of population peculiar to the capitalist mode of production; and in fact every special historic mode of production has its own special laws of population, historically valid within its limits alone. An abstract law of population exists for plants and animals only, and only in so far as man has not interfered with them.

[1] "The demand for labour depends on the increase of circulating, and not of fixed capital. Were it true that the proportion between these two sorts of capital is the same at all times, and in all circumstances, then, indeed, it follows that the number of labourers employed is in proportion to the wealth of the state. But such a proposition has not the semblance of probability. As arts are cultivated, and civilization is extended, fixed capital bears a larger and larger proportion to circulating capital. The amount of fixed capital employed in the production of a piece of British muslin is at least a hundred, probably a thousand times greater than that employed in a similar piece of Indian muslin. And the proportion of circulating capital is a hundred or thousand times less. . . . the whole of the annual savings, added to the fixed capital, would have no effect in increasing the demand for labour." (John Barton. "Observations on the Circumstances which Influence the Condition of the Labouring Classes of Society." London, 1817, pp. 16, 17.) "The same cause which may increase the net revenue of the country may at the same time render the population redundant, and deteriorate the condition of the labourer." (Ricardo, l. c., p. 469.) With increase of capital, "the demand [for labour] will be in a diminishing ratio." (ibid. p. 480, Note.) "The amount of capital devoted to the maintenance of labour may vary, independently of any changes in the whole amount of capital . . . . Great fluctuations in the amount of employment, and great suffering may become more frequent as capital itself becomes more plentiful." (Richard Jones. "An Introductory Lecture on Pol. Econ., Lond. 1833," p. 13.) "Demand [for labour] will rise . . . not in proportion to the accumulation of the general capital. . . . Every augmentation, therefore, in the national stock destined for reproduction, comes, in the progress of society, to have less and less influence upon the condition of the labourer." (Ramsay, l. c., pp. 90, 91.)

But if a surplus labouring population is a necessary product of accumulation or of the development of wealth on a capitalist basis, this surplus population becomes, conversely, the lever of capitalistic accumulation, nay, a condition of existence of the capitalist mode of production. It forms a disposable industrial reserve army, that belongs to capital quite as absolutely as if the latter had bred it at its own cost. Independently of the limits of the actual increase of population, it creates, for the changing needs of the self-expansion of capital, a mass of human material always ready for exploitation. With accumulation, and the development of the productiveness of labour that accompanies it, the power of sudden expansion of capital grows also; it grows, not merely because the elasticity of the capital already functioning increases, not merely because the absolute wealth of society expands, of which capital only forms an elastic part, not merely because credit, under every special stimulus, at once places an unusual part of this wealth at the disposal of production in the form of additional capital; it grows, also, because the technical conditions of the process of production themselves—machinery, means of transport, &c.—now admit of the rapidest transformation of masses of surplus product into additional means of production. The mass of social wealth, overflowing with the advance of accumulation, and transformable into additional capital, thrusts itself frantically into old branches of production, whose market suddenly expands, or into newly formed branches, such as railways, &c., the need for which grows out of the development of the old ones. In all such cases, there must be the possibility of throwing great masses of men suddenly on the decisive points without injury to the scale of production in other spheres. Over-population supplies these masses. The course characteristic of modern industry, viz., a decennial cycle (interrupted by smaller oscillations), of periods of average activity, production at high pressure, crisis and stagnation, depends on the constant formation, the greater or less absorption, and the re-formation of the industrial reserve army or surplus population. In their turn, the varying phases of the industrial cycle recruit the surplus population, and become one of the most energetic agents of its

reproduction. This peculiar course of modern industry, which occurs in no earlier period of human history, was also impossible in the childhood of capitalist production. The composition of capital changed but very slowly. With its accumulation, therefore, there kept pace, on the whole, a corresponding growth in the demand for labour. Slow as was the advance of accumulation compared with that of more modern times, it found a check in the natural limits of the exploitable labouring population, limits which could only be got rid of by forcible means to be mentioned later. The expansion by fits and starts of the scale of production is the preliminary to its equally sudden contraction; the latter again evokes the former, but the former is impossible without dispcsable human material, without an increase in the number of labourers independently of the absolute growth of the population. This increase is effected by the simple process that constantly "sets free" a part of the labourers; by methods which lessen the number of labourers employed in proportion to the increased production. The whole form of the movement of modern industry depends, therefore, upon the constant transformation of a part of the labouring population into unemployed or half-employed hands. The superficiality of Political Economy shows itself in the fact that it looks upon the expansion and contraction of credit, which is a mere symptom of the periodic changes of the industrial cycle, as their cause. As the heavenly bodies, once thrown into a certain definite motion, always repeat this, so is it with social production as soon as it is once thrown into this movement of alternate expansion and contraction. Effects, in their turn, become causes, and the varying accidents of the whole process, which always reproduces its own conditions, take on the form of periodicity. When this periodicity is once consolidated, even Political Economy then sees that the production of a relative surplus population—*i.e.*, surplus with regard to the average needs of the self-expansion of capital—is a necessary condition of modern industry.

"Suppose," says H. Merivale, formerly Professor of Political Economy at Oxford, subsequently employed in the English Colonial Office, "suppose that, on the occasion of some of these

crises, the nation were to rouse itself to the effort of getting rid by emigration of some hundreds of thousands of superfluous arms, what would be the consequence? That, at the first returning demand for labour, there would be a deficiency. However rapid reproduction may be, it takes, at all events, the space of a generation to replace the loss of adult labour. Now, the profits of our manufacturers depend mainly on the power of making use of the prosperous moment when demand is brisk, and thus compensating themselves for the interval during which it is slack. This power is secured to them only by the command of machinery and of manual labour. They must have hands ready by them, they must be able to increase the activity of their operations when required, and to slacken it again, according to the state of the market, or they cannot possibly maintain that pre-eminence in the race of competition on which the wealth of the country is founded."[1] Even Malthus recognises over-population as a necessity of modern industry, though, after his narrow fashion, he explains it by the absolute over-growth of the labouring population, not by their becoming relatively supernumerary. He says: "Prudential habits with regard to marriage, carried to a considerable extent among the labouring class of a country mainly depending upon manufactures and commerce, might injure it. . . . From the nature of a population, an increase of labourers cannot be brought into market in consequence of a particular demand till after the lapse of 16 or 18 years, and the conversion of revenue into capital, by saving, may take place much more rapidly; a country is always liable to an increase in the quantity of the funds for the maintenance of labour faster than the increase of population."[2] After Political Economy has thus demonstrated the constant production of a relative surplus-population of labourers to be a necessity of capitalistic accumulation, she very aptly, in the guise of an old maid, puts in the mouth of her

[1] H. Merivale: "Lectures on Colonization and Colonies, 1841." Vol. I., p. 146.

[2] Malthus. "Principles of Political Economy," pp. 254, 319, 320. In this work, Malthus finally discovers, with the help of Sismondi, the beautiful Trinity of capitalistic production: over-production, over-population, over-consumption—three very delicate monsters, indeed. Cf. F. Engels. "Umrisse zu einer Kritik der National-Oekonomie," l.c., p. 107, et seq.

"beau ideal" of a capitalist the following words addressed to those supernumeraries thrown on the streets by their own creation of additional capital:—"We manufacturers do what we can for you, whilst we are increasing that capital on which you must subsist, and you must do the rest by accommodating your numbers to the means of subsistence."[1]

Capitalist production can by no means content itself with the quantity of disposable labour-power which the natural increase of population yields. It requires for its free play an industrial reserve army independent of these natural limits.

Up to this point it has been assumed that the increase or diminution of the variable capital corresponds rigidly with the increase or diminution of the number of labourers employed.

The number of labourers commanded by capital may remain the same, or even fall, while the variable capital increases. This is the case if the individual labourer yields more labour, and therefore his wages increase, and this although the price of labour remains the same or even falls, only more slowly than the mass of labour rises. Increase of variable capital, in this case, becomes an index of more labour, but not of more labourers employed. It is the absolute interest of every capitalist to press a given quantity of labour out of a smaller, rather than a greater number of labourers, if the cost is about the same. In the latter case, the outlay of constant capital increases in proportion to the mass of labour set in action; in the former that increase is much smaller. The more extended the scale of production, the stronger this motive. Its force increases with the accumulation of capital.

We have seen that the development of the capitalist mode of production and of the productive power of labour—at once the cause and effect of accumulation—enables the capitalist, with the same outlay of variable capital, to set in action more labour by greater exploitation (extensive or intensive) of each individual labour-power. We have further seen that the capitalist buys with the same capital a greater mass of labour-power, as he progressively replaces skilled labourers by

[1] Harriet Martineau. "The Manchester Strike," 1842, p. 101.

less skilled, mature labour-power by immature, male by female, that of adults by that of young persons or children.

On the one hand, therefore, with the progress of accumulation, a larger variable capital sets more labour in action without enlisting more labourers; on the other, a variable capital of the same magnitude sets in action more labour with the same mass of labour-power; and, finally, a greater number of inferior labour-powers by displacement of higher.

The production of a relative surplus-population, or the setting free of labourers, goes on therefore yet more rapidly than the technical revolution of the process of production that accompanies, and is accelerated by, the advance of accumulation; and more rapidly than the corresponding diminution of the variable part of capital as compared with the constant. If the means of production, as they increase in extent and effective power, become to a less extent means of employment of labourers, this state of things is again modified by the fact that in proportion as the productiveness of labour increases, capital increases its supply of labour more quickly than its demand for labourers. The over-work of the employed part of the working class swells the ranks of the reserve, whilst conversely the greater pressure that the latter by its competition exerts on the former, forces these to submit to over-work and to subjugation under the dictates of capital. The condemnation of one part of the working-class to enforced idleness by the over-work of the other part, and the converse, becomes a means of enriching the individual capitalists,[1] and accelerates at the

[1] Even in the cotton famine of 1863 we find, in a pamphlet of the operative cotton-spinners of Blackburn, fierce denunciations of overwork, which, in consequence of the Factory Acts, of course only effected adult male labourers. "The adult operatives at this mill have been asked to work from 12 to 13 hours per day, while there are hundreds who are compelled to be idle who would willingly work partial time, in order to maintain their families and save their brethren from a premature grave through being overworked . . . We," it goes on to say, "would ask if the practice of working overtime by a number of hands, is likely to create a good feeling between masters and servants. Those who are worked overtime feel the injustice equally with those who are condemned to forced idleness. There is in the district almost sufficient work to give to all partial employment if fairly distributed. We are only asking what is right in requesting the masters generally to pursue a system of short hours, particularly until a better state of things begins to dawn upon us, rather than to work a portion of the hands overtime, while others, for want of work, are com-

same time the production of the industrial reserve army on a scale corresponding with the advance of social accumulation. How important is this element in the formation of the relative surplus-population, is shown by the example of England. Her technical means for saving labour are colossal. Nevertheless, if to-morrow morning labour generally were reduced to a rational amount, and proportioned to the different sections of the working-class according to age and sex, the working population to hand would be absolutely insufficient for the carrying on of national production on its present scale. The great majority of the labourers now "unproductive" would have to be turned into "productive" ones.

Taking them as a whole, the general movements of wages are exclusively regulated by the expansion and contraction of the industrial reserve army, and these again correspond to the periodic changes of the industrial cycle. They are, therefore, not determined by the variations of the absolute number of the working population, but by the varying proportions in which the working class is divided into active and reserve army, by the increase or diminution in the relative amount of the surplus-population, by the extent to which it is now absorbed, now set free. For Modern Industry with its decennial cycles and periodic phases, which, moreover, as accumulation advances, are complicated by irregular oscillations following each other more and more quickly, that would indeed be a beautiful law, which pretends to make the action of capital dependent on the absolute variation of the population, instead of regulating the demand and supply of labour by the alternate expansion and contraction of capital, the labour-market now appearing relatively under-full, because capital is expanding,

pelled to exist upon charity." (Reports of Insp. of Fact., Oct. 31, 1863, p. 8.) The author of the "Essay on Trade and Commerce" grasps the effect of a relative surplus-population on the employed labourers with his usual unerring bourgeois instinct. "Another cause of idleness in this kingdom is the want of a sufficient number of labouring hands . . . . Whenever from an extraordinary demand for manufactures, labour grows scarce, the labourers feel their own consequence, and will make their masters feel it likewise—it is amazing; but so depraved are the dispositions of these people, that in such cases a set of workmen have combined to distress the employer, by idling a whole day together." (Essay, &c., pp. 27, 28.) The fellows in fact were hankering after a rise in wages.

now again over-full, because it is contracting. Yet this is the dogma of the economists. According to them, wages rise in consequence of accumulation of capital. The higher wages stimulate the working population to more rapid multiplication, and this goes on until the labour-market becomes too full, and therefore capital, relatively to the supply of labour, becomes insufficient. Wages fall, and now we have the reverse of the medal. The working population is little by little decimated as the result of the fall in wages, so that capital is again in excess relatively to them, or, as others explain it, falling wages and the corresponding increase in the exploitation of the labourer again accelerates accumulation, whilst, at the same time, the lower wages hold the increase of the working-class in check. Then comes again the time, when the supply of labour is less than the demand, wages rise, and so on. A beautiful mode of motion this for developed capitalist production! Before, in consequence of the rise of wages, any positive increase of the population really fit for work could occur, the time would have been passed again and again, during which the industrial campaign must have been carried through, the battle fought and won.

Between 1849 and 1859, a rise of wages practically insignificant, though accompanied by falling prices of corn, took place in the English agricultural districts. In Wiltshire, *e.g.*, the weekly wages rose from 7s. to 8s.; in Dorsetshire from 7s. or 8s., to 9s., &c. This was the result of an unusual exodus of the agricultural surplus-population caused by the demands of war, the vast extension of railroads, factories, mines, &c. The lower the wages, the higher is the proportion in which ever so insignificant a rise of them expresses itself. If the weekly wage, *e.g.*, is 20s. and it rises to 22s., that is a rise of 10 per cent.; but if it is only 7s. and it rises to 9s., that is a rise of 28$\frac{4}{7}$ per cent., which sounds very fine. Everywhere the farmers were howling, and the "London Economist," with reference to these starvation-wages, prattled quite seriously of "a general and substantial advance."[1] What did the farmers do now? Did they wait until, in consequence of this brilliant remuneration,

[1] Economist. Jan. 21. 1860.

the agricultural labourers had so increased and multiplied that their wages must fall again, as prescribed by the dogmatic economic brain? They introduced more machinery, and in a moment the labourers were redundant again in a proportion satisfactory even to the farmers. There was now "more capital" laid out in agriculture than before, and in a more productive form. With this the demand for labour fell, not only relatively, but absolutely.

The above economic fiction confuses the laws that regulate the general movement of wages, or the ratio between the working-class—*i.e.*, the total labour-power—and the total social capital, with the laws that distribute the working population over the different spheres of production. If, *e.g.*, in consequence of favourable circumstances, accumulation in a particular sphere of production becomes especially active, and profits in it, being greater than the average profits, attract additional capital, of course the demand for labour rises and wages also rise. The higher wages draw a larger part of the working population into the more favoured sphere, until it is glutted with labour-power, and wages at length fall again to their average level or below it, if the pressure is too great. Then, not only does the immigration of labourers into the branch of industry in question cease; it gives place to their emigration. Here the political economist thinks he sees the why and wherefore of an absolute increase of workers accompanying an increase of wages, and of a diminution of wages accompanying an absolute increase of labourers. But he sees really only the local oscillation of the labour-market in a particular sphere of production—he sees only the phenomena accompanying the distribution of the working population into the different spheres of outlay of capital, according to its varying needs.

The industrial reserve army, during the periods of stagnation and average prosperity, weighs down the active labour-army; during the periods of over-production and paroxysm, it holds its pretensions in check. Relative surplus-population is therefore the pivot upon which the law of demand and supply of labour works. It confines the field of action of this law within

the limits absolutely convenient to the activity of exploitation and to the domination of capital.

This is the place to return to one of the grand exploits of economic apologetics. It will be remembered that if through the introduction of new, or the extension of old, machinery, a portion of variable capital is transformed into constant, the economic apologist interprets this operation which "fixes" capital and by that very act set labourers "free," in exactly the opposite way, pretending that it sets free capital for the labourers. Only now can one fully understand the effrontery of these apologists. What are set free are not only the labourers immediately turned out by the machines, but also their future substitutes in the rising generation, and the additional contingent, that with the usual extension of trade on the old basis would be regularly absorbed. They are now all "set free," and every new bit of capital looking out for employment can dispose of them. Whether it attracts them or others, the effect on the general labour demand will be nil, if this capital is just sufficient to take out of the market as many labourers as the machines threw upon it. If it employs a smaller number, that of the supernumeraries increases; if it employs a greater, the general demand for labour only increases to the extent of the excess of the employed over those "set free." The impulse that additional capital, seeking an outlet, would otherwise have given to the general demand for labour, is therefore in every case neutralised to the extent of the labourers thrown out of employment by the machine. That is to say, the mechanism of capitalistic production so manages matters that the absolute increase of capital is accompanied by no corresponding rise in the general demand for labour. And this the apologist calls a compensation for the misery, the sufferings, the possible death of the displaced labourers during the transition period that banishes them into the industrial reserve army! The demand for labour is not identical with increase of capital, nor supply of labour with increase of the working class. It is not a case of two independent forces working on one another. Les dés sont pipés. Capital works on both sides at the same time. If its accumu-

lation, on the one hand, increases the demand for labour, it increases on the other the supply of labourers by the "setting free" of them, whilst at the same time the pressure of the unemployed compels those that are employed to furnish more labour, and therefore makes the supply of labour, to a certain extent, independent of the supply of labourers. The action of the law of supply and demand of labour on this basis completes the despotism of capital. As soon, therefore, as the labourers learn the secret, how it comes to pass that in the same measure as they work more, as they produce more wealth for others, and as the productive power of their labour increases, so in the same measure even their function as a means of the self-expansion of capital becomes more and more precarious for them; as soon as they discover that the degree of intensity of the competition among themselves depends wholly on the pressure of the relative surplus-population; as soon as, by Trades' Unions, &c., they try to organise a regular co-operation between employed and unemployed in order to destroy or to weaken the ruinous effects of this natural law of capitalistic production on their class, so soon capital and its sycophant, political economy, cry out at the infringement of the "eternal" and so to say "sacred" law of supply and demand. Every combination of employed and unemployed disturbs the "harmonious" action of this law. But, on the other hand, as soon as (in the colonies, *e.g.*) adverse circumstances prevent the creation of an industrial reserve army and, with it, the absolute dependence of the working class upon the capitalist class, capital, along with its commonplace Sancho Panza, rebels against the "sacred" law of supply and demand, and tries to check its inconvenient action by forcible means and State interference.

SECTION 4.—DIFFERENT FORMS OF THE RELATIVE SURPLUS-POPULATION. THE GENERAL LAW OF CAPITALISTIC ACCUMULATION.

The relative surplus population exists in every possible form. Every labourer belongs to it during the time when he is only partially employed or wholly unemployed. Not taking into

account the great periodically recurring forms that the changing phases of the industrial cycle impress on it, now an acute form during the crisis, then again a chronic form during dull times—it has always three forms, the floating, the latent, the stagnant.

In the centres of modern industry—factories, manufactures, ironworks, mines, &c.—the labourers are sometimes repelled, sometimes attracted again in greater masses, the number of those employed increasing on the whole, although in a constantly decreasing proportion to the scale of production. Here the surplus population exists in the floating form.

In the automatic factories, as in all the great workshops, where machinery enters as a factor, or where only the modern division of labour is carried out, large numbers of boys are employed up to the age of maturity. When this term is once reached, only a very small number continue to find employment in the same branches of industry, whilst the majority are regularly discharged. This majority forms an element of the floating surplus-population, growing with the extension of those branches of industry. Part of them emigrates, following in fact capital that has emigrated. Oue consequence is that the female population grows more rapidly than the male, *teste* England. That the natural increase of the number of labourers does not satisfy the requirements of the accumulation of capital, and yet all the time is in excess of them, is a contradiction inherent to the movement of capital itself. It wants larger numbers of youthful labourers, a smaller number of adults. The contradiction is not more glaring than that other one that there is a complaint of the want of hands, while at the same time many thousands are out of work, because the division of labour chains them to a particular branch of industry.[1]

The consumption of labour-power by capital is, besides, so

[1] Whilst during the last six months of 1866, 80-90,000 working people in London were thrown out of work, the Factory Report for that same half year says: "It does not appear absolutely true to say that demand will always produce supply just at the moment when it is needed. It has not done so with labour, for much machinery has been idle last year for want of hands." (Rep. of Insp. of Fact., 31st Oct., 1866, p. 81.)

rapid that the labourer, half-way through his life, has already more or less completely lived himself out. He falls into the ranks of the supernumeraries, or is thrust down from a higher to a lower step in the scale. It is precisely among the work-people of modern industry that we meet with the shortest duration of life. Dr. Lee, Medical Officer of Health for Manchester, stated "that the average age at death of the Manchester . . . . upper middle class was 38 years, while the average age at death of the labouring class was 17; while at Liverpool those figures were represented as 35 against 15. It thus appeared that the well-to-do classes had a lease of life which was more than double the value of that which fell to the lot of the less favoured citizens."[1] In order to conform to these circumstances, the absolute increase of this section of the proletariat must take place under conditions that shall swell their numbers, although the individual elements are used up rapidly. Hence, rapid renewal of the generations of labourers (this law does not hold for the other classes of the population). This social need is met by early marriages, a necessary consequence of the conditions in which the labourers of modern industry live, and by the premium that the exploitation of children sets on their production.

As soon as capitalist production takes possession of agriculture, and in proportion to the extent to which it does so, the demand for an agricultural labouring population falls absolutely, while the accumulation of the capital employed in agriculture advances, without this repulsion being, as in non-agricultural industries, compensated by a greater attraction. Part of the agricultural population is therefore constantly on the point of passing over into an urban or manufacturing proletariat, and on the look-out for circumstances favourable to this transformation. (Manufacture is used here in the sense of all non-agricultural industries).[2] This source of relative

[1] Opening address to the Sanitary Conference, Birmingham, January 15th, 1875, by J. Chamberlain, Mayor of the town, now (1883) President of the Board of Trade.

[2] 781 Towns given in the census for 1861 for England and Wales "contained 10,960,998 inhabitants, while the villages and country parishes contained 9,105,226. In 1851, 580 towns were distinguished, and the population in them and in the surrounding country was nearly equal. But while in the subsequent ten years the population in

surplus-population is thus constantly flowing. But the constant flow towards the towns presupposes, in the country itself, a constant latent surplus-population, the extent of which becomes evident only when its channels of outlet open to exceptional width. The agricultural labourer is therefore reduced to the minimum of wages, and always stands with one foot already in the swamp of pauperism.

The third category of the relative surplus-population, the stagnant, forms a part of the active labour army, but with extremely irregular employment. Hence it furnishes to capital an inexhaustible reservoir of disposable labour-power. Its conditions of life sink below the average normal level of the working-class; this makes it at once the broad basis of special branches of capitalist exploitation. It is characterized by maximum of working time, and minimum of wages. We have learnt to know its chief form under the rubric of "domestic industry." It recruits itself constantly from the supernumerary forces of modern industry and agriculture, and specially from those decaying branches of industry where handicraft is yielding to manufacture, manufacture to machinery. Its extent grows, as with the extent and energy of accumulation, the creation of a surplus population advances. But it forms at the same time a self-reproducing and self-perpetuating element of the working class, taking a proportionally greater part in the general increase of that class than the other elements. In fact, not only the number of births and deaths, but the absolute size of the families stand in inverse proportion to the height of wages, and therefore to the amount of means of subsistence of which the different categories of labourers dispose. This law of capitalistic society would sound absurd to savages, or even civilized colonists. It calls to mind the boundless reproduction of animals individually weak and constantly hunted down.[1]

the villages and the country increased half a million, the population in the 580 towns increased by a million and a half (1,554,067). The increase of the population of the country parishes is 6·5 per cent., and of the towns 17·3 per cent. The difference in the rates of increase is due to the migration from country to town. Three-fourths of the total increase of population has taken place in the towns. (Census, &c., pp. 11 and 12.)

[1] "Poverty seems favourable to generation." (A. Smith.) This is even a specially wise arrangement of God, according to the gallant and witty Abbé Galiani. "Iddio

The lowest sediment of the relative surplus-population finally dwells in the sphere of pauperism. Exclusive of vagabonds, criminals, prostitutes, in a word, the "dangerous" classes, this layer of society consists of three categories. First, those able to work. One need only glance superficially at the statistics of English pauperism to find that the quantity of paupers increases with every crisis, and diminishes with every revival of trade. Second, orphans and pauper children. These are candidates for the industrial reserve-army, and are, in times of great prosperity, as 1860, *e.g.*, speedily and in large numbers enrolled in the active army of labourers. Third, the demoralized and ragged, and those unable work, chiefly people who succumb to their incapacity for adaptation, due to the division of labour; people who have passed the normal age of the labourer; the victims of industry, whose number increases with the increase of dangerous machinery, of mines, chemical works, &c., the mutilated, the sickly, the widows, &c. Pauperism is the hospital of the active labour-army and the dead weight of the industrial reserve-army. Its production is included in that of the relative surplus-population, its necessity in theirs; along with the surplus-population, pauperism forms a condition of capitalist production, and of the capitalist development of wealth. It enters into the *faux frais* of capitalist production; but capital knows how to throw these, for the most part, from its own shoulders on to those of the working-class and the lower middle class.

The greater the social wealth, the functioning capital, the extent and energy of its growth, and, therefore, also the absolute mass of the proletariat and the productiveness of its labour, the greater is the industrial reserve-army. The same causes which develope the expansive power of capital, develope also the labour-power at its disposal. The relative mass of the industrial reserve-army increases therefore with the potential energy of wealth. But the greater this reserve-army in proportion to

af che gli uomini che esercitano mestieri di prima utilità nascono abbondantemente." (Galiani, l. c., p. 78.) "Misery up to the extreme point of famine and pestilence, instead of checking, tends to increase population." (S. Laing: National Distress, 1844, p. 69.) After Laing has illustrated this by statistics, he continues: "If the people were all in easy circumstances, the world would soon be depopulated."

the active labour-army, the greater is the mass of a consolidated surplus-population, whose misery is in inverse ratio to its torment of labour. The more extensive, finally, the lazurus-layers of the working-class, and the industrial reserve-army, the greater is official pauperism. *This is the absolute general law of capitalist accumulation.* Like all other laws it is modified in its working by many circumstances, the analysis of which does not concern us here.

The folly is now patent of the economic wisdom that preaches to the labourers the accommodation of their number to the requirements of capital. The mechanism of capitalist production and accumulation constantly effects this adjustment. The first word of this adaptation is the creation of a relative surplus-population, or industrial reserve-army. Its last word is the misery of constantly extending strata of the active army of labour, and the dead weight of pauperism.

The law by which a constantly increasing quantity of means of production, thanks to the advance in the productiveness of social labour, may be set in movement by a progressively diminishing expenditure of human power, this law, in a capitalist society—where the labourer does not employ the means of production, but the means of production employ the labourer—undergoes a complete inversion and is expressed thus: the higher the productiveness of labour, the greater is the pressure of the labourers on the means of employment, the more precarious, therefore, becomes their condition of existence, viz., the sale of their own labour-power for the increasing of another's wealth, or for the self-expansion of capital. The fact that the means of production, and the productiveness of labour, increase more rapidly than the productive population, expresses itself, therefore, capitalistically in the inverse form that the labouring population always increases more rapidly than the conditions under which capital can employ this increase for its own self-expansion.

We saw in Part IV., when analysing the production of relative surplus-value: within the capitalist system all methods for raising the social productiveness of labour are brought about at the cost of the individual labourer; all means

for the development of production transform themselves into means of domination over, and exploitation of, the producers; they mutilate the labourer into a fragment of a man, degrade him to the level of an appendage of a machine, destroy every remnant of charm in his work and turn it into a hated toil; they estrange from him the intellectual potentialities of the labour-process in the same proportion as science is incorporated in it as an independant power; they distort the conditions under which he works, subject him during the labour-process to a despotism the more hateful for its meanness; they transform his life-time into working-time, and drag his wife and child beneath the wheels of the Juggernaut of capital. But all methods for the production of surplus-value are at the same time methods of accumulation; and every extension of accumulation becomes again a means for the development of those methods. It follows therefore that in proportion as capital accumulates, the lot of the labourer, be his payment high or low, must grow worse. The law, finally, that always equilibrates the relative surplus-population, or industrial reserve army, to the extent and energy of accumulation, this law rivets the labourer to capital more firmly than the wedges of Vulcan did Prometheus to the rock. It establishes an accumulation of misery, corresponding with accumulation of capital. Accumulation of wealth at one pole is, therefore, at the same time accumulation of misery, agony of toil, slavery, ignorance, brutality, mental degradation, at the opposite pole, *i.e.*, on the side of the class that produces its own product in the form of capital.

This antagonistic character of capitalistic accumulation[1] is enunciated in various forms by political economists, although by them it is confounded with phenomena, certainly to some

[1] "De jour en jour il devient donc plus clair que les rapports de production dans lesquels se meut la bourgeoisie n'ont pas un caractère un, un caractère simple, mais un caractère de duplicité; que dans les mêmes rapports dans lesquels se produit la richesse, la misère se produit aussi; que dans les mêmes rapports dans lesquels il y a développement des forces productives, il y a une force productive de répression; que ces rapports ne produisent la richesse bourgeoise, c'est-à-dire la richesse de la classe bourgeoise, qu'en anéantissant continuellement la richesse des membres intégrants de cette classe et en produisant un prolétariat toujours croissant." (Karl Marx: Misère de la Philosophie, p. 116.)

extent analogous, but nevertheless essentially distinct, and belonging to precapitalistic modes of production.

The Venetian monk Ortes, one of the great economic writers of the 18th century, regards the antagonism of capitalist production as a general natural law of social wealth. "In the economy of a nation, advantages and evils always balance one another (il bene ed il male economico in una nazione sempre all, istessa misura): the abundance of wealth with some people, is always equal to the want of it with others (la copia dei beni in alcuni sempre eguale alla mancanza di essi in altri): the great riches of a small number are always accompanied by the absolute privation of the first necessaries of life for many others. The wealth of a nation corresponds with its population, and its misery corresponds with its wealth. Diligence in some compels idleness in others. The poor and idle are a necessary consequence of the rich and active," &c.[1] In a thoroughly brutal way about 10 years after Ortes, the Church of England parson, Townsend, glorified misery as a necessary condition of wealth. "Legal constraint (to labour) is attended with too much trouble, violence, and noise, ... whereas hunger is not only a peaceable, silent, unremitted pressure, but as the most natural motive to industry and labour, it calls forth the most powerful exertions." Everything therefore depends upon making hunger permanent among the working class, and for this, according to Townsend, the principle of population, especially active among the poor, provides. "It seems to be a law of nature that the poor should be to a certain degree improvident" [*i.e.* so improvident as to be born *without* a silver spoon in the mouth], "that there may always be some to fulfil the most servile, the most sordid, and the most ignoble offices in the community. The stock of human happiness is thereby much increased, whilst the more delicate are not only relieved from drudgery. . . . but are left at liberty without interruption to pursue those callings

[1] G. Ortes: Della Economia Nazionale libri sei, 1777, in Custodi, Parte Moderna, t. xxi, pp. 6, 9, 22, 25, etc. Ortes says, l. c., p. 32: "In luoco di progettar sistemi inutili per la felicità de'popoli, mi limiterò a investigare la ragione della loro infelicità."

which are suited to their various dispositions. . . . . it [the Poor Law] tends to destroy the harmony and beauty, the symmetry and order of that system which God and Nature have established in the world."[1] If the Venetian monk found in the fatal destiny that makes misery eternal, the *raison d'être* of Christian charity, celibacy, monasteries and holy houses, the Protestant prebendary finds in it a pretext for condemning the laws in virtue of which the poor possessed a right to a miserable public relief.

"The progress of social wealth," says Storch, "begets this useful class of society . . . which performs the most wearisome, the vilest, the most disgusting functions, which takes, in a word, on its shoulders all that is disagreeable and servile in life, and procures thus for other classes leisure, serenity of mind and conventional [c'est bon!] dignity of character."[2] Storch asks himself in what then really consist the progress of this capitalistic civilization with its misery and its degradation of the masses, as compared with barbarism. He finds but one answer: security!

"Thanks to the advance of industry and science," says Sismondi, "every labourer can produce every day much more than his consumption requires. But at the same time, whilst his labour produces wealth, that wealth would, were he called on to consume it himself, make him less fit for labour." According to him, "men" [*i.e.*, non-workers] "would probably prefer to do without all artistic perfection, and all the enjoyments that manufactures procure for us, if it were necessary that all should buy them by constant toil like that of the

[1] A Dissertation on the Poor Laws. By a Well-wisher of Mankind. (The Rev. J. Townsend) 1786, republished Lond. 1817, pp. 15, 39, 41. This "delicate" parson, from whose work just quoted, as well as from his "Journey through Spain," Malthus often copies whole pages, himself borrowed the greater part of his doctrine from Sir James Steuart, whom he however alters in the borrowing. *E.g.*, when Steuart says: "Here, in slavery, was a forcible method of making mankind diligent," [for the non-workers] . . . "Men were then forced to work" [*i.e.* to work gratis for others], "because they were slaves of others; men are now forced to work" [*i.e.*, to work gratis for non-workers] "because they are the slaves of their necessities," he does not thence conclude, like the fat holder of benefices, that the wage-labourer must always go fasting. He wishes, on the contrary, to increase their wants and to make the increasing number of their wants a stimulus to their labour for the "more delicate."

[2] Storch, l. c. t. iii., p. 223.

labourer. . . . Exertion to-day is separated from its recompense; it is not the same man that first works, and then reposes; but it is because the one works that the other rests. . . . The indefinite multiplication of the productive powers of labour can then only have for result the increase of luxury and enjoyment of the idle rich."[1]

Finally Destutt de Tracy, the fish-blooded bourgeois doctrinaire, blurts out brutally: "In poor nations the people are comfortable, in rich nations they are generally poor."[2]

SECTION 5.—ILLUSTRATIONS OF THE GENERAL LAW OF CAPITALIST ACCUMULATION.

(*a.*) *England from* 1846-1866.

No period of modern society is so favourable for the study of capitalist accumulation as the period of the last 20 years. It is as if this period had found Fortunatus' purse. But of all countries England again furnishes the classical example, because it holds the foremost place in the world-market, because capitalist production is here alone completely developed, and lastly, because the introduction of the Free Trade millennium since 1846 has cut off the last retreat of vulgar economy. The titanic advance of production—the latter half of the 20 years period again far surpassing the former—has been already pointed out sufficiently in Part IV.

Although the absolute increase of the English population in the last half century was very great, the relative increase or rate of growth fell constantly, as the following table borrowed from the census shows.

Annual increase per cent. of the population of England and Wales in decimal numbers:

1811-1821	1·533 per cent.
1821-1831	1·446 „
1831-1841	1·326 „
1841-1851	1·216 „
1851-1861	1·141 „

[1] Sismondi l. c. pp. 79, 80, 85.

[2] Destutt de Tracy, l. c. p. 231: "Les nations pauvres, c'est là où le peuple est à son aise; et les nations riches, c'est là où il est ordinairement pauvre."

Let us now, on the other hand, consider the increase of wealth. Here the movement of profit, rent of land, &c., that come under the income tax, furnishes the surest basis. The increase of profits liable to income tax (farmers and some other categories not included) in Great Britain from 1853 to 1864 amounted to 50·47% or 4·58% as the annual average,[1] that of the population during the same period to about 12%. The augmentation of the rent of land subject to taxation (including houses, railways, mines, fisheries, &c.), amounted for 1853 to 1864 to 38% or $3\frac{5}{12}$% annually. Under this head the following categories show the greatest increase:

Excess of annual income of 1864 over that of 1853.	Increase per year.
Houses, 38·60%	3·50%
Quarries, 84.76%	7·70%
Mines, 68·85%	6·26%
Iron-works, 39·92%	3·63%
Fisheries, 57·37%	5·21%
Gasworks, 126·02%	11·45%
Railways, 83·29%	7·57%[2]

If we compare the years from 1853 to 1864 in three sets of four consecutive years each, the rate of augmentation of the income increases constantly. It is, *e.g.*, for that arising from profits between 1853 to 1857, 1·73% yearly; 1857-1861, 2·74%, and for 1861-64, 9·30% yearly. The sum of the incomes of the United Kingdom that come under the income tax was in 1856 £307,068,898; in 1859, £328,127,416; in 1862, £351,745,241; in 1863, £359,142,897; in 1864, £362,462,279; in 1865, £385,530,020.[3]

The accumulation of capital was attended at the same time by its concentration and centralisation. Although no official

[1] Tenth Report of the Commissioners of H.M. Inland Revenue. Lond. 1866, p. 38.

[2] Ibidem.

[3] These figures are sufficient for comparison, but, taken absolutely, are false, since, perhaps, £100,000,000 of income are annually not declared. The complaints of the Inland Revenue Commissioners of systematic fraud, especially on the part of the commercial and industrial classes, are repeated in each of their reports. So *e.g.*, "A Joint-stock company returns £6000 as assessable profits, the surveyor raises the amount to £88,000, and upon that sum duty is ultimately paid. Another company which returns £190,000 is finally compelled to admit that the true return should be £250,000." (Ibid., p. 42.)

statistics of agriculture existed for England (they did for Ireland), they were voluntarily given in 10 counties. These statistics gave the result that from 1851 to 1861 the number of farms of less than 100 acres had fallen from 31,583 to 26,597, so that 5016 had been thrown together into larger farms.[1] From 1815 to 1825 no personal estate of more than £1,000,000 came under the succession duty; from 1825 to 1855, however, 8 did; and 4 from 1856 to June, 1859, *i.e.*, in 4½ years.[2] The centralisation will, however, be best seen from a short analysis of the Income Tax Schedule D (profits, exclusive of farms, &c.), in the years 1864 and 1865. I note beforehand that incomes from this source pay income tax on everything over £60. These incomes liable to taxation in England, Wales, and Scotland, amounted in 1864 to £95,844,222, in 1865 to £105,435,579.[3] The number of persons taxed were in 1864, 308,416, out of a population of 23,891,009; in 1865, 332,431 out of a population of 24,127,003. The following table shows the distribution of these incomes in the two years:

Year ending April 5th, 1864.			Year ending April 5th, 1865.		
Income from profits.		Persons.	Income from Profits.		Persons.
Total Income	£95,844,222	308,416	Total Income	£105,435,738	332,431
of these	57,028,289	23,334	of these	64,554,297	24,265
,,	36,415,225	3,619	,,	42,535,576	4,021
,,	22,809,781	832	,,	27,555,313	973
,,	8,744,762	91	,,	11,077,238	107

In 1855 there were produced in the United Kingdom 61,453,079 tons of coal, of value £16,113,167; in 1864, 92,787,873 tons, of value £23,197,968; in 1855, 3,218,154 tons of pig-iron, of value £8,045,385; 1864, 4,767,951 tons, of value

[1] Census, &c., l. c., p. 29. John Bright's assertion that 150 landlords own half of England, and 12 half the Scotch soil, has never been refuted.

[2] Fourth Report, &c., of Inland Revenue. Lond., 1860, p. 17.

[3] These are the net incomes after certain legally authorized abatements.

£11,919,877. In 1854 the length of the railroads worked in the United Kingdom was 8054 miles, with a paid-up capital of £286,068,794; in 1864 the length was 12,789 miles, with capital paid up of £425,719,613. In 1854 the total sum of the exports and imports of the United Kingdom was £268,210,145; in 1865, £489,923,285. The following table shows the movement of the exports:

1846	£58,842,377
1849	63,596,052
1856	115,826,948
1860	135,842,817
1865	165,862,402
1866	188,917,563 [1]

After these few examples one understands the cry of triumph of the Registrar-General of the British people: "Rapidly as the population has increased, it has not kept pace with the progress of industry and wealth." [2]

Let us turn now to the direct agents of this industry, or the producers of this wealth, to the working class. "It is one of the most melancholy features in the social state of this country," says Gladstone, "that while there was a decrease in the consuming powers of the people, and while there was an increase in the privations and distress of the labouring class and operatives, there was at the same time a constant accumulation of wealth in the upper classes, and a constant increase of capital." [3] Thus spake this unctuous minister in the House of Commons on February 13th, 1843. On April 16th, 1863, 20 years later,

[1] At this moment, March, 1867, the Indian and Chinese market is again overstocked by the consignments of the British cotton manufacturers. In 1866 a reduction in wages of 5 per cent. took place amongst the cotton operatives. In 1867, as consequence of a similar operation, there was a strike of 20,000 men at Preston.

[2] Census, &c., l. c., p. 11.

[3] Gladstone in the House of Commons, Feb. 13th, 1843. "Times," Feb. 14th, 1843. —"It is one of the most melancholy features in the social state of this country that we see, beyond the possibility of denial, that while there is at this moment a decrease in the consuming powers of the people, an increase of the pressure of privations and distress; there is at the same time a constant accumulation of wealth in the upper classes, an increase of the luxuriousness of their habits, and of their means of enjoyment." (Hansard, 13th Feb.)

in the speech in which he introduced his Budget: "From 1842 to 1852 the taxable income of the country increased by 6 per cent. . . . . In the 8 years from 1853 to 1861 it had increased from the basis taken in 1853 by 20 per cent! The fact is so astonishing as to be almost incredible . . . . this intoxicating augmentation of wealth and power . . . . entirely confined to classes of property . . . . must be of indirect benefit to the labouring population, because it cheapens the commodities of general consumption. While the rich have been growing richer, the poor have been growing less poor. At any-rate, whether the extremes of poverty are less, I do not presume to say."[1] How lame an anti-climax! If the working-class has remained "poor," only "less poor" in proportion as it produces for the wealthy class "an intoxicating augmentation of wealth and power," then it has remained relatively just as poor. If the extremes of poverty have not lessened, they have increased, because the extremes of wealth have. As to the cheapening of the means of subsistence, the official statistics, *e.g.*, the accounts of the London Orphan Asylum, show an increase in price of 20% for the average of the three years 1860-1862, compared with 1851-1853. In the following three years, 1863-1865, there was a progressive rise in the price of meat, butter, milk, sugar, salt, coals, and a number of other necessary means of subsistence.[2] Gladstone's next Budget speech of April 7th, 1864, is a Pindaric dithyrambus on the advance of surplus-value-making and the happiness of the people tempered by "poverty." He speaks of masses "on the border" of pauperism, of branches of trade in which "wages have not increased," and finally sums up the happiness of the working class in the words: "human life is but, in nine cases out of ten, a struggle for existence."[3]

[1] Gladstone in the House of Commons, April 16th, 1863. "Morning Star," April 17th.

[2] See the official accounts in the Blue Book: "Miscellaneous statistics of the United Kingdom," Part vi., London, 1866, pp. 260-273, passim. Instead of the statistics of orphan asylums, &c., the declamations of the ministerial journals in recommending dowries for the Royal children might also serve. The greater dearness of the means of subsistence is never forgotten there.

[3] Gladstone, House of Commons, 7th April, 1864.—"The Hansard version runs: "Again, and yet more at large—what is human life, but, in the majority of cases, a struggle for existence." The continual crying contradictions in Gladstone's Budget

Professor Fawcett, not bound like Gladstone by official considerations, declares roundly: "I do not, of course, deny that money wages have been augmented by this increase of capital (in the last ten years), but this apparent advantage is to a great extent lost, because many of the necessaries of life are becoming dearer" (he believes because of the fall in value of the precious metals) . . . . "the rich grow rapidly richer, whilst there is no perceptible advance in the comfort enjoyed by the industrial classes . . . . They (the labourers) become almost the slaves of the tradesman, to whom they owe money."[1]

In the chapters on the "working day" and "machinery," the reader has seen under what circumstances the British working-class created an "intoxicating augmentation of wealth and power" for the propertied classes. There we were chiefly concerned with the social functioning of the labourer. But for a full elucidation of the law of accumulation, his condition outside the workshop must also be looked at, his condition as to food and dwelling. The limits of this book compel us to concern ourselves chiefly with the worst paid part of the industrial proletariat, and with the agricultural labourers, who together form the majority of the working-class.

But first, one word on official pauperism, or on that part of the working-class which has forfeited its condition of existence (the sale of labour-power), and vegetates upon public alms. The official list of paupers numbered in England[2] 851,369 persons; in 1856, 877,767; in 1865, 971,433. In consequence of the cotton famine, it grew in the years 1863 and 1864 to 1,079,382 and 1,014,978. The crisis of 1866, which fell most heavily on London, created in this centre of the world-market, more

speeches of 1863 and 1864 were characterised by an English writer by the following quotation from Molière:

> "Voilà l'homme en effet. Il va du blanc au noir,
> Il condamne au matin ses sentiments du soir.
> Importun à tout autre, à soi-même incommode,
> Il change à tout moment d'esprit comme de mode."

(The Theory of Exchanges, &c., London, 1864, p. 135.)

[1] H. Fawcett, l. c., pp. 67-82. As to the increasing dependence of labourers on the retail shopkeepers, this is the consequence of the frequent oscillations and interruptions of their employment.

[2] Wales here is always included in England.

populous than the kingdom of Scotland, an increase of pauperism for the year 1866 of 19·5% compared with 1865, and of 24·4% compared with 1864, and a still greater increase for the first months of 1867 as compared with 1866. From the analysis of the statistics of pauperism, two points are to be taken. On the one hand, the fluctuation up and down of the number of paupers, reflects the periodic changes of the industrial cycle. On the other, the official statistics become more and more misleading as to the actual extent of pauperism in proportion as, with the accumulation of capital, the class-struggle, and, therefore, the class-consciousness of the working-men, develope. *E.g.*, the barbarity in the treatment of the paupers, at which the English Press (*The Times*, *Pall Mall Gazette*, etc.) have cried out so loudly during the last two years, is of ancient date. F. Engels showed in 1844 exactly the same horrors, exactly the same transient canting outcries of "sensational literature." But frightful increase of "deaths by starvation" in London during the last ten years proves beyond doubt the growing horror in which the working-people hold the slavery of the workhouse, that place of punishment for misery.[1]

(*b.*) *The badly paid Strata of the British Industrial Class.*

During the Cotton famine of 1862, Dr. Smith was charged by the Privy Council with an inquiry into the conditions of nourishment of the distressed operatives in Lancashire and Cheshire. His observations during many preceding years had led him to the conclusion that "to avert starvation diseases," the daily food of an average woman ought to contain at least 3,900 grains of carbon with 180 grains of nitrogen; the daily food of an average man, at least 4,300 grains of carbon with 200 grains of nitrogen; for women, about the same quantity of nutritive elements as are contained in 2 lbs of good wheaten

[1] A peculiar light is thrown on the advance made since the time of Adam Smith, by the fact that by him the word "workhouse" is still occasionally used as synonymous with "manufactory;" *e.g.*, the opening of his chapter on the division of labour; "those employed in every different branch of the work can often be collected into the same workhouse."

bread, for men $\frac{1}{9}$ more; for the weekly average of adult men and women, at least 28,600 grains of carbon and 1,330 grains of nitrogen. His calculation was practically confirmed in a surprising manner by its agreement with the miserable quantity of nourishment to which want had forced down the consumption of the cotton operatives. This was, in December, 1862, 29,211 grains of carbon, and 1,295 grains of nitrogen weekly.

In the year 1863, the Privy Council ordered an inquiry into the state of distress of the worst-nourished part of the English working-class. Dr. Simon, medical officer to the Privy Council, chose for this work the above-mentioned Dr. Smith. His inquiry ranges on the one hand over the agricultural labourers, on the other, over silk-weavers, needle-women, kid-glovers, stocking-weavers, glove-weavers, and shoe-makers. The latter categories are, with the exception of the stocking-weavers, exclusively town-dwellers. It was made a rule in the inquiry to select in each category the most healthy families, and those comparatively in the best circumstances.

As a general result it was found that "in only one of the examined classes of in-door operatives did the average nitrogen-supply just exceed, while in another it nearly reached, the estimated standard of bare sufficiency [*i.e.*, sufficient to avert starvation diseases], and that in two classes there was defect—in one a very large defect—of both nitrogen and carbon. Moreover, as regards the examined families of the agricultural population, it appeared that more than a fifth were with less than the estimated sufficiency of carbonaceous food, that more than one third were with less than the estimated sufficiency of nitrogenous food, and that in three counties (Berkshire, Oxfordshire, and Somersetshire), insufficiency of nitrogenous food was the average local diet."[1] Among the Agricultural labourers, those of England, the wealthiest part of the United Kingdom, were the worst fed.[2] The insufficiency of food among the agricultural labourers, fell, as a rule, chiefly on the women and children, for "the man must eat to do his work." Still greater penury ravaged the town-workers examined. "They

[1] Public Health. Sixth Report, 1864, p. 13.
[2] l. c. p. 17.

are so ill fed that assuredly among them there must be many cases of severe and injurious privation."[1] ("Privation" of the capitalist all this! *i.e.*, "abstinence" from paying for the means of subsistence absolutely necessary for the mere vegetation of his "hands.")

The following table shows the conditions of nourishment of the above-named categories of purely town-dwelling workpeople, as compared with the minimum assumed by Dr. Smith, and with the food-allowance of the cotton operatives during the time of their greatest distress:

BOTH SEXES.	AVERAGE WEEKLY CARBON.	AVERAGE WEEKLY NITROGEN.
Five in-door occupations - -	28,876 grains	1,192 grains
Unemployed Lancashire Operatives	28,211 ,,	1,295 ,,
Minimum quantity to be allowed to the Lancashire Operatives, equal number of males and females.	28,600 ,,	1,330 ,,[2]

One half, or $\frac{60}{125}$ of the industrial labour categories investigated, had absolutely no beer, 28% no milk. The weekly average of the liquid means of nourishment in the families varied from seven ounces in the needle-women to $24\frac{3}{4}$ ounces in the stocking-makers. The majority of those who did not obtain milk were needle-women in London. The quantity of bread-stuffs consumed weekly varied from $7\frac{3}{4}$lbs for the needle-women to $11\frac{1}{2}$lbs for the shoemakers, and gave a total average of 9·9 lbs per adult weekly. Sugar (treacle, etc.) varied from 4 ounces weekly for the kid-glovers to 11 ounces for the stocking-makers; and the total average per week for all categories was 8 ounces per adult weekly. Total weekly average of butter (fat, etc.) 5 ounces per adult. The weekly average of meat (bacon, etc.) varied from $7\frac{1}{4}$ ounces for the silk-weavers, to $18\frac{1}{4}$ ounces for the kid-glovers; total average for the different categories 13·6 ounces. The weekly cost of food per adult, gave the following average figures; silk-weavers 2s. $2\frac{1}{2}$d.,

[1] l. c. p. 13.
[2] l. c., Appendix p. 232.

needle-women 2s. 7d., kid-glovers 2s. 9½d., shoemakers 2s 7¾d., stocking weavers 2s. 6¼d. For the silk-weavers of Macclesfield the average was only 1s. 8½d. The worst categories were the needle-women, silk-weavers and kid-glovers.[1] Of these facts, Dr. Simon in his General Health Report says: "That cases are innumerable in which defective diet is the cause or the aggravator of disease, can be affirmed by any one who is conversant with poor law medical practice, or with the wards and out-patient rooms of hospitals. . . . Yet in this point of view, there is, in my opinion, a very important sanitary context to be added. It must be remembered that privation of food is very reluctantly borne, and that as a rule great poorness of diet will only come when other privations have preceded it. Long before insufficiency of diet is a matter of hygienic concern, long before the physiologist would think of counting the grains of nitrogen and carbon which intervene between life and starvation, the household will have been utterly destitute of material comfort; clothing and fuel will have been even scantier than food—against inclemencies of weather there will have been no adequate protection—dwelling space will have been stinted to the degree in which overcrowding produces or increases disease; of household utensils and furniture there will have been scarcely any—even cleanliness will have been found costly or difficult, and if there still be self-respectful endeavours to maintain it, every such endeavour will represent additional pangs of hunger. The home, too, will be where shelter can be cheapest bought; in quarters where commonly there is least fruit of sanitary supervision, least drainage, least scavenging, least suppression of public nuisances, least or worst water supply, and, if in town, least light and air. Such are the sanitary dangers to which poverty is almost certainly exposed, when it is poverty enough to imply scantiness of food. And while the sum of them is of terrible magnitude against life, the mere scantiness of food is in itself of very serious moment. . . . . These are painful reflections, especially when it is remembered that the poverty to which they advert is not the deserved poverty of

[1] l. c pp. 232, 233.

idleness. In all cases it is the poverty of working populations. Indeed, as regards the indoor opervatives, the work which obtains the scanty pittance of food, is for the most part excessively prolonged. Yet evidently it is only in a qualified sense that the work can be deemed self-supporting. . . . . And on a very large scale the nominal self-support can be only a circuit, longer or shorter, to pauperism."[1]

The intimate connexion between the pangs of hunger of the most industrious layers of the working class, and the extravagant consumption, coarse or refined, of the rich, for which capitalist accumulation is the basis, reveals itself only when the economic laws are known. It is otherwise with the "housing of the poor." Every unprejudiced observer sees that the greater the centralisation of the means of production, the greater is the corresponding heaping together of the labourers, within a given space; that therefore the swifter capitalistic accumulation, the more miserable are the dwellings of the working-people. "Improvements" of towns, accompanying the increase of wealth, by the demolition of badly built quarters, the erection of palaces for banks, warehouses, &c., the widening of streets for business traffic, for the carriages of luxury, and for the introduction of tramways, &c., drive away the poor into even worse and more crowded hiding places. On the other hand, every one knows that the dearness of dwellings is in inverse ratio to their excellence, and that the mines of misery are exploited by house speculators with more profit or less cost than ever were the mines of Potosi. The antagonistic character of capitalist accumulation, and therefore of the capitalistic relations of property generally,[2] is here so evident, that even the official English reports on this subject teem with heterodox onslaughts on "property and its rights." With the development of industry, with the accumulation of capital, with the growth and "improvement" of towns, the evil makes such progress that

[1] l. c. pp. 14, 15.

[2] "In no particular have the rights of *persons* been so avowedly and shamefully sacrificed to the rights of *property* as in regard to the lodging of the labouring class. Every large town may be looked upon as a place of human sacrifice, a shrine where thousands pass yearly through the fire as offerings to the moloch of avarice." S. Laing, l. c. p. 150.

the mere fear of contagious diseases which do not spare even "respectability," brought into existence from 1847 to 1864 no less than 10 Acts of Parliament on sanitation, and that the frightened bourgeois in some towns, as Liverpool, Glasgow, &c., took strenuous measures through their municipalities. Nevertheless Dr. Simon, in his report of 1865, says: "Speaking generally, it may be said that the evils are uncontrolled in England." By order of the Privy Council, in 1864, an inquiry was made into the conditions of the housing of the agricultural labourers, in 1865 of the poorer classes in the towns. The results of the admirable work of Dr. Julian Hunter are to be found in the seventh (1865) and eighth (1866) reports on "Public Health." To the agricultural labourers, I shall come later. On the condition of town dwellings, I quote, as preliminary, a general remark of Dr. Simon. "Although my official point of view," he says, "is one exclusively physical, common humanity requires that the other aspect of this evil should not be ignored. . . . In its higher degrees it [*i.e.*, overcrowding] almost necessarily involves such negation of all delicacy, such unclean confusion of bodies and bodily functions, such exposure of animal and sexual nakedness, as is rather bestial than human. To be subject to these influences is a degradation which must become deeper and deeper for those on whom it continues to work. To children who are born under its curse, it must often be a very baptism into infamy. And beyond all measure hopeless is the wish that persons thus circumstanced should ever in other respects aspire to that atmosphere of civilization which has its essence in physical and moral cleanliness."[1]

London takes the first place in overcrowded habitations, absolutely unfit for human beings. "He feels clear," says Dr. Hunter, "on two points; first, that there are about 20 large colonies in London, of about 10,000 persons each, whose miserable condition exceeds almost anything he has seen elsewere in England, and is almost entirely the result of their bad house accommodation; and second, that the crowded and dilapidated condition of the houses of these colonies is much worse than

[1] Public Health, eighth report, 1865, p. 14, note.

was the case 20 years ago."[1] "It is not too much to say that life in parts of London and Newcastle is infernal."[2]

Further, the better-off part of the working class, together with the small shopkeepers and other elements of the lower middle class, falls in London more and more under the curse of these vile conditions of dwelling, in proportion as "improvements," and with them the demolition of old streets and houses, advance, as factories and the afflux of human beings grow in the metropolis, and finally as house rents rise with the ground rents. "Rents have become so heavy that few labouring men can afford more than one room."[3] There is almost no house-property in London that is not overburdened with a number of middlemen. For the price of land in London is always very high in comparison with its yearly revenue, and therefore every buyer speculates on getting rid of it again at a jury price (the expropriation valuation fixed by jurymen), or on pocketing an extraordinary increase of value arising from the neighbourhood of some large establishment. As a consequence of this there is a regular trade in the purchase of "fag-ends of leases." "Gentlemen in this business may be fairly expected to do as they do—get all they can from the tenants while they have them, and leave as little as they can for their successors."[4]

The rents are weekly, and these gentlemen run no risk. In consequence of the making of railroads in the City, "the spectacle has lately been seen in the East of London of a number of families wandering about some Saturday night with their scanty worldly goods on their backs, without any resting place but the workhouse."[5] The workhouses are already over-

[1] l. c. p. 89. With reference to the children in these colonies, Dr. Hunter says: "People are not now alive to tell us how children were brought up before this age of dense agglomerations of poor began, and he would be a rash prophet who should tell us what future behaviour is to be expected from the present growth of children, who, under circumstances probably never before paralleled in this country, are now completing their education for future practice, as "dangerous classes" by sitting up half the night with persons of every age, half naked, drunken, obscene, and quarrelsome." (l. c. p. 56.)

[2] l. c. p. 62.

[3] Report of the Officer of Health of St. Martins-in-the-Fields, 1865.

[4] Public Health, eighth report, 1865, p. 91.

[5] l. c. p. 88.

crowded, and the "improvements" already sanctioned by Parliament are only just begun. If labourers are driven away by the demolition of their old houses, they do not leave their old parish, or at most they settle down on its borders, as near as they can get to it. "They try, of course, to remain as near as possible to their workshops. The inhabitants do not go beyond the same or the next parish, parting their two-room tenements into single rooms, and crowding even those. . . Even at an advanced rent, the people who are displaced will hardly be able to get an accommodation so good as the meagre one they have left. . . . Half the workmen . . . of the Strand . . . walked two miles to their work."[1] This same Strand, a main thoroughfare which gives strangers an imposing idea of the wealth of London, may serve as an example of the packing together of human beings in that town. In one of its parishes, the Officer of Health reckoned 581 persons per acre, although half the width of the Thames was reckoned in. It will be self-understood that every sanitary measure, which, as has been the case hitherto in London, hunts the labourers from one quarter, by demolishing uninhabitable houses, serves only to crowd them together yet more closely in another. "Either," says Dr. Hunter, "the whole proceeding will of necessity stop as an absurdity, or the public compassion (!) be effectually aroused to the obligation which may now be without exaggeration called national, of supplying cover to those who by reason of their having no capital, cannot provide it for themselves, though they can by periodical payments reward those who will provide it for them."[2] Admire this capitalistic justice! The owner of land, of houses, the business man, when expropriated by "improvements" such as railroads, the building of new streets, &c., not only receives full indemnity. He must, according to law, human and divine, be comforted for his enforced "abstinence" over and above this by a thumping profit. The labourer, with his wife and child and chattels, is thrown out into the street, and—if he crowds in too large numbers towards quarters of the town where the vestries insist on decency, he is prosecuted in the name of sanitation!

[1] l. c. p. 88.

[2] l. c. p. 89.

Except London, there was at the beginning of the 19th century no single town in England of 100,000 inhabitants. Only five had more than 50,000. Now there are 28 towns with more than 50,000 inhabitants. "The result of this change is not only that the class of town people is enormously increased, but the old close-packed little towns are now centres, built round on every side, open nowhere to air, and being no longer agreeable to the rich are abandoned by them for the pleasanter outskirts. The successors of these rich are occupying the larger houses at the rate of a family to each room [. . . and find accommodation for two or three lodgers . . .] and a population, for which the houses were not intended and quite unfit, has been created, whose surroundings are truly degrading to the adults and ruinous to the children."[1] The more rapidly capital accumulates in an industrial or commercial town, the more rapidly flows the stream of exploitable human material, the more miserable are the improvised dwellings of the labourers.

Newcastle-on-Tyne, as the centre of a coal and iron district of growing productiveness, takes the next place after London in the housing inferno. Not less than 34,000 persons live there in single rooms. Because of their absolute danger to the community, houses in great numbers have lately been destroyed by the authorities in Newcastle and Gateshead. The building of new houses progresses very slowly, business very quickly. The town was, therefore, in 1865, more full than ever. Scarcely a room was to let. Dr. Embleton, of the Newcastle Fever Hospital, says: "There can be little doubt that the great cause of the continuance and spread of the typhus has been the overcrowding of human beings, and the uncleanliness of their dwellings. The rooms, in which labourers in many cases live, are situated in confined and unwholesome yards or courts, and for space, light, air, and cleanliness, are models of insufficiency and insalubrity, and a disgrace to any civilised community; in them men, women, and children lie at night huddled together; and as regards the men, the night-shift succeed the day-shift, and the day-shift the night-shift in unbroken series

[1] l. c. pp. 55 and 56.

for some time together, the beds having scarcely time to cool; the whole house badly supplied with water, and worse with privies; dirty, unventilated, and pestiferous."[1] The price per week of such lodgings ranges from 8d. to 3s. "The town of Newcastle-on-Tyne," says Dr. Hunter, "contains a sample of the finest tribe of our countrymen, often sunk by external circumstances of house and street into an almost savage degradation."[2]

As result of the ebbing and flowing of capital and labour, the state of the dwellings of an industrial town may to-day be bearable, to-morrow hideous. Or the ædileship of the town may have pulled itself together for the removal of the most shocking abuses. To-morrow, like a swarm of locusts, come crowding in masses of ragged Irishmen or decayed English agricultural labourers. They are stowed away in cellars and lofts, or the hitherto respectable labourer's dwelling is transformed into a lodging-house whose *personnel* changes as quickly as the billets in the 30 years' war. Example: Bradford (Yorkshire). There the municipal philistine was just busied with urban improvements. Besides, there were still in Bradford, in 1861, 1751 uninhabited houses. But now comes that revival of trade which the mildly liberal Mr. Forster, the negro's friend, recently crowed over with so much grace. With the revival of trade came of course an overflow from the waves of the ever fluctuating "reserve-army" or "relative surplus population." The frightful cellar habitations and rooms registered in the list,[1] which Dr. Hunter obtained from the agent of

[1] l. c. p. 149. [2] l. c. p. 50.

[3] Collecting Agents' List (Bradford).

Houses.

Vulcan Street, No. 122	1 room	16 persons
Lumley Street, No. 13	1 ,,	11 ,,
Bower Street, No. 41	1 ,,	11 ,,
Portland Street, No. 112	1 ,,	10 ,,
Hardy Street, No. 17	1 ,,	10 ,,
North Street, No. 18	1 ,,	16 ,,
North Street. No. 17	1 ,,	13 ,,
Wymer Street, No. 19]	1 ,,	8 adults
Jowett Street, No. 56	1 ,,	12 persons
George Street, No. 150	1 ,,	3 families

an Insurance Company, were for the most part inhabited by well-paid labourers. They declared that they would willingly pay for better dwellings if they were to be had. Meanwhile, they become degraded, they fall ill, one and all, whilst the mildly liberal Forster, M.P., sheds tears over the blessings of free-trade, and the profits of the eminent men of Bradford who deal in worsted. In the Report of September, 1865, Dr. Bell, one of the poor law doctors of Bradford, ascribes the frightful mortality of fever-patients in his district to the nature of their dwellings. "In one small cellar measuring 1500 cubic feet . . . there are ten persons. . . . Vincent Street, Green Aire Place, and the Leys include 223 houses having 1,450 inhabitants, 435 beds, and 36 privies. . . . . The beds—and in that term I include any roll of dirty old rags, or an armful of shavings—have an average of 3·3 person to each, many have 5 and 6 persons to each, and some people, I am told, are absolutely without beds; they sleep in their ordinary clothes, on the bare boards—young men and women, married and unmarried, all together. I need scarcely add that many of these dwellings are dark, damp, dirty, stinking holes, utterly unfit for human habitations; they are the centres from which disease and death are distributed amongst those in better circumstances, who have allowed them thus to fester in our midst."[1]

Bristol takes the third place after London in the misery of

Rifle Court Marygate, No. 11	1 room	11 persons
Marshall Street, No. 28	1 ,,	10 ,,
Marshall Street, No. 49	3 ,,	3 families
George Street, No. 128	1 ,,	18 persons
George Street, No. 130	1 ,,	16 ,,
Edward Street, No. 4	1 ,,	17 ,,
George Street, No. 49	1 ,,	2 families
York Street, No. 34	1 ,,	2 ,,
Salt Pie Street (bottom)	2 ,,	26 persons
Cellars.		
Regent Square	1 cellar	8 persons
Acre Street	1 ,,	7 ,,
33 Roberts Court	1 ,,	7 ,,
Back Pratt Street, used as a brazier's shop	1 ,,	7 ,,
27 Ebenezer Street	1 ,,	6 ,, (no male above 18).

l. c. p. iii.

[1] l. c. p. 114.

its dwellings. "Bristol, where the blankest poverty and domestic misery abound in the wealthiest town of Europe."[1]

c. The Nomad Population.

We turn now to a class of people whose origin is agricultural, but whose occupation is in great part industrial. They are the light infantry of capital, thrown by it, according to its needs, now to this point, now to that. When they are not on the march, they "camp." Nomad labour is used for various operation of building and draining, brick-making, lime-burning, railway-making, &c. A flying column of pestilence, it carries into the places in whose neighbourhood it pitches its camp, small-pox, typhus, cholera, scarlet fever, &c.[2] In undertakings that involve much capital outlay, such as railways, &c., the contractor himself generally provides his army with wooden huts and the like, thus improvising villages without any sanitary provisions, outside the control of the local boards, very profitable to the contractor, who exploits the labourers in two-fold fashion—as soldiers of industry and as tenants. According as the wooden hut contains 1, 2, or 3 holes, its inhabitant, navvy, or whatever he may be, has to pay 1, 3, or 4 shillings weekly.[3] One example will suffice. In September, 1864, Dr. Simon reports that the Chairman of the Nuisances Removal Committee of the parish of Sevenoaks sent the following denunciation to Sir George Grey, Home Secretary:—"Small-pox cases were rarely heard of in this parish until about twelve months ago. Shortly before that time, the works for a railway from Lewisham to Tunbridge were commenced here, and, in addition to the principal works being in the immediate neighbourhood of this town, here was also established the depôt for the whole of the works, so that a large number of persons was of necessity employed here. As cottage accommodotion could not be obtained for them all, huts were built in several places along the line of the works by the contractor, Mr. Jay, for their especial occupation. These huts possessed no ventilation nor

[1] l. c. p. 50.
[2] Public Health. Seventh Report. 1864. p. 18.
[3] l. c., p. 165.

drainage, and, besides, were necessarily overcrowded, because each occupant had to accommodate lodgers, whatever the number in his own family might be, although there were only two rooms to each tenement. The consequences were, according to the medical report we received, that in the night-time these poor people were compelled to endure all the horror of suffocation to avoid the pestiferous smells arising from the filthy, stagnant water, and the privies close under their windows. Complaints were at length made to the Nuisances Removal Committee by a medical gentleman who had occasion to visit these huts, and he spoke of their condition as dwellings in the most severe terms, and he expressed his fears that some very serious consequences might ensue, unless some sanitary measures were adopted. About a year ago, Mr. Jay promised to appropriate a hut, to which persons in his employ, who were suffering from contagious diseases, might at once be removed. He repeated that promise on the 23rd July last, but although since the date of the last promise there have been several cases of small-pox in his huts, and two deaths from the same disease, yet he has taken no steps whatever to carry out his promise. On the 9th September instant, Mr. Kelson, surgeon, reported to me further cases of small-pox in the same huts, and he described their condition as most disgraceful. I should add, for your (the Home Secretary's) information that an isolated house, called the Pest-house, which is set apart for parishioners who might be suffering from infectious diseases, has been continually occupied by such patients for many months past, and is also now occupied; that in one family five children died from small-pox and fever; that from the 1st April to the 1st September this year, a period of five months, there have been no fewer than ten deaths from small-pox in the parish, four of them being in the huts already referred to; that it is impossible to ascertain the exact number of persons who have suffered from that disease, although they are known to be many, from the fact of the families keeping it as private as possible."[1]

[1] l. c., p. 18, Note.—The Relieving Officer of the Chapel-en-le-Frith Union reported to the Registrar-General as follows:—"At Dovcholes, a number of small excavations have been made into a large hillock of lime ashes (the refuse of lime-

The labourers in coal and other mines belong to the best paid categories of the British proletariat. The price at which they buy their wages was shown on an earlier page.[1] Here I merely cast a hurried glance over the conditions of their dwellings. As a rule, the exploiter of a mine, whether its owner or his tenant, builds a number of cottages for his hands. They receive cottages and coal for firing "for nothing"—*i.e.*, these form part of their wages, paid in kind. Those who are not lodged in this way receive in compensation £4 per annum. The mining districts attract with rapidity a large population, made up of the miners themselves, and the artisans, shopkeepers, &c., that group themselves around them. The ground-rents are high, as they are generally where population is dense. The master tries, therefore, to run up, within the smallest space possible at the mouth of the pit, just so many cottages as are necessary to pack together his hands and their families. If new mines are opened in the neighbourhood, or old ones are again set working, the pressure increases. In the construction of the cottages, only one point of view is of moment, the "abstinence" of the capitalist from all expenditure that is not absolutely unavoidable. "The lodging which is obtained by the pitmen and other labourers connected with the collieries of Northumberland and Durham," says Dr. Julian Hunter, "is perhaps, on the whole, the worst and the dearest of which any large specimens can be found in England, the similar parishes of Monmouthshire excepted. . . . The extreme badness is in the high number of men found in one room, in the smallness of the ground-plot on which a great number of houses are thrust, the want of water, the absence of privies, and the frequent placing of one house on the top of another, or distribu-

kilns), and which are used as dwellings, and occupied by labourers and others employed in the construction of a railway now in course of construction through that neighbourhood. The excavations are small and damp, and have no drains or privies about them, and not the slightest means of ventilation except up a hole pulled through the top, and used for a chimney. In consequence of this defect, small-pox has been raging for some time, and some deaths [amongst the troglodytes] have been caused by them." (l.c., note 2.)

[1] The details given at the end of Part IV. refer especially to the labourers in coal mines. On the still worse condition in metal mines, see the very conscientious Report of the Royal Commission of 1864.

tion into flats, . . . the lessee acts as if the whole colony were encamped, not resident."[1]

"In pursuance of my instructions," says Dr. Stevens, "I visited most of the large colliery villages in the Durham Union. . . . With very few exceptions, the general statement that no means are taken to secure the health of the inhabitants would be true of all of them. . . . All colliers are bound ['bound,' an expression which, like bondage, dates from the age of serfdom] to the colliery lessee or owner for twelve months. . . . . If the colliers express discontent, or in any way annoy the 'viewer,' a mark or memorandum is made against their names, and, at the annual 'binding,' such men are turned off. . . . . It appears to me that no part of the 'truck system' could be worse than what obtains in these densely-populated districts. The collier is bound to take as part of his hiring a house surrounded with pestiferous influences; he cannot help himself, and it appears doubtful whether anyone else can help him except his proprietor (he is, to all intents and purposes, a serf), and his proprietor first consults his balance-sheet, and the result is tolerably certain. The collier is also often supplied with water by the proprietor, which, whether it be good or bad, he has to pay for, or rather he suffers a deduction for from his wages."[2]

In conflict with "public opinion," or even with the Officers of Health, capital makes no difficulty about "justifying" the conditions partly dangerous, partly degrading, to which it confines the working and domestic life of the labourer, on the ground that they are necessary for profit. It is the same thing when capital "abstains" from protective measures against dangerous machinery in the factory, from appliances for ventilation and for safety in mines, &c. It is the same here with the housing of the miners. Dr. Simon, medical officer of the Privy Council, in his official Report says: "In apology for the wretched household accommodation . . . it is alleged that mines are commonly worked on lease; that the duration of the lessee's interest (which in collieries is commonly for 21 years), is not so long that he should deem it worth his while to create good accommoda-

[1] l. c., pp. 180, 182.

[2] l. c., pp. 515, 517.

tion for his labourers, and for the tradespeople and others whom the work attracts; that even if he were disposed to act liberally in the matter, this disposition would commonly be defeated by his landlord's tendency to fix on him, as ground rent, an exorbitant additional charge for the privilege of having on the surface of the ground the decent and comfortable village which the labourers of the subterranean property ought to inhabit, and that prohibitory price (if not actual prohibition) equally excludes others who might desire to build. It would be foreign to the purpose of this report to enter upon any discussion of the merits of the above apology. Nor here is it even needful to consider where it would be that, if decent accommodation were provided, the cost . . . would eventually fall—whether on landlord, or lessee, or labourer, or public. But in presence of such shameful facts as are vouched for in the annexed reports [those of Dr. Hunter, Dr. Stevens, &c.] a remedy may well be claimed. . . . . Claims of landlordship are being so used as to do great public wrong. The landlord in his capacity of mine-owner invites an industrial colony to labour on his estate, and then in his capacity of surface-owner makes it impossible that the labourers whom he collects, should find proper lodging where they must live. The lessee [the capitalist exploiter] meanwhile has no pecuniary motive for resisting that division of the bargain; well knowing that if its latter conditions be exorbitant, the consequences fall, not on him, that his labourers on whom they fall have not education enough to know the value of their sanitary rights, that neither obscenest lodging nor foulest drinking water will be appreciable inducements towards a 'strike.'" [1]

(d). *Effect of Crises on the best paid part of the Working Class.*

Before I turn to the regular agricultural labourers, I may be allowed to show, by one example, how industrial revulsions affect even the best-paid, the aristocracy, of the working-class. It will be remembered that the year 1857 brought one of the great crises with which the industrial cycle periodically ends.

[1] l. c., p. 16

The next termination of the cycle was due in 1866. Already discounted in the regular factory districts by the cotton famine, which threw much capital from its wonted sphere into the great centres of the money-market, the crisis assumed, at this time, an especially financial character. Its outbreak in 1866 was signalised by the failure of a gigantic London Bank, immediately followed by the collapse of countless swindling companies. One of the great London branches of industry involved in the catastrophe was iron shipbuilding. The magnates of this trade had not only over-produced beyond all measure during the overtrading time, but they had, besides, engaged in enormous contracts on the speculation that credit would be forthcoming to an equivalent extent. Now, a terrible reaction set in, that even at this hour (the end of March, 1867) continues in this and other London industries.[1] To show the condition of the labourers, I quote the following from the circumstantial report of a correspondent of the "Morning Star," who, at the end of 1866, and beginning of 1867, visited the chief centres of distress: "In the East End districts of Poplar, Millwall, Greenwich, Deptford, Limehouse and Canning Town, at least 15,000 workmen and their families were in a state of utter destitution, and 3000 skilled mechanics were breaking stones in the workhouse yard (after distress of over half a year's duration). . . . . I had great difficulty in reaching the workhouse door, for a hungry crowd besieged it. . . . . They were waiting for their tickets, but the time had not yet arrived for the distribution. The yard was a great square place with an open shed running all round it, and several large heaps of snow

[1] "Wholesale starvation of the London Poor. . . . Within the last few days the walls of London have been placarded with large posters, bearing the following remarkable announcement:—'Fat oxen! Starving men! The fat oxen from their palace of glass have gone to feed the rich in their luxurious abode, while the starving men are left to rot and die in their wretched dens.' The placards bearing these ominous words are put up at certain intervals. No sooner has one set been defaced or covered over, than a fresh set is placarded in the former, or some equally public place. . . . . This . . . reminds one of the secret revolutionary associations which prepared the French people for the events of 1789. . . . . At this moment, while English workmen with their wives and children are dying of cold and hunger, there are millions of English gold—the produce of English labour—being invested in Russian, Spanish, Italian, and other foreign enterprises."—"Reynolds' Newspaper," January 20th, 1867.

covered the paving-stones in the middle. In the middle, also, were little wicker-fenced spaces, like sheep pens, where in finer weather the men worked; but on the day of my visit the pens were so snowed up that nobody could sit in them. Men were busy, however, in the open shed breaking paving-stones into macadam. Each man had a big paving-stone for a seat, and he chipped away at the rime-covered granite with a big hammer until he had broken up, and think! five bushels of it, and then he had done his day's work, and got his day's pay—threepence and an allowance of food. In another part of the yard was a rickety little wooden house, and when we opened the door of it, we found it filled with men who were huddled together shoulder to shoulder, for the warmth of one another's bodies and breath. They were picking oakum and disputing the while as to which could work the longest on a given quantity of food—for endurance was the point of honour. Seven thousand . . . in this one workhouse . . . were recipients of relief . . . many hundreds of them . . . it appeared, were, six or eight months ago, earning the highest wages paid to artisans. . . . . Their number would be more than doubled by the count of those who, having exhausted all their savings, still refuse to apply to the parish, because they have a little left to pawn. Leaving the workhouse, I took a walk through the streets, mostly of little one-storey houses, that abound in the neighbourhood of Poplar. My guide was a member of the Committee of the Unemployed. . . . . My first call was on an ironworker who had been seven and twenty weeks out of employment. I found the man with his family sitting in a little back room. The room was not bare of furniture, and there was a fire in it. This was necessary to keep the naked feet of the young children from getting frost bitten, for it was a bitterly cold day. On a tray in front of the fire lay a quantity of oakum, which the wife and children were picking in return for their allowance from the parish. The man worked in the stone yard of the workhouse for a certain ration of food, and threepence per day. He had now come home to dinner quite hungry, as he told us with a melancholy smile, and his dinner consisted of a couple of slices of bread and dripping, and a cup of milkless tea. . . . .

The next door at which we knocked was opened by a middle-aged woman, who, without saying a word, led us into a little back parlour, in which sat all her family, silent and fixedly staring at a rapidly dying fire. Such desolation, such hopelessness was about these people and their little room, as I should not care to witness again. 'Nothing have they done, sir,' said the woman, pointing to her boys, 'for six and twenty weeks; and all our money gone—all the twenty pounds that me and father saved when times were better, thinking it would yield a little to keep us when we got past work. Look at it,' she said, almost fiercely, bringing out a bank book with all its well-kept entries of money paid in, and money taken out, so that we could see how the little fortune had begun with the first five shilling deposit, and had grown by little and little to be twenty pounds, and how it had melted down again till the sum in hand got from pounds to shillings, and the last entry made the book as worthless as a blank sheet. This family received relief from the workhouse, and it furnished them with just one scanty meal per day. . . . . Our next visit was to an iron labourer's wife, whose husband had worked in the yards. We found her ill from want of food, lying on a mattress in her clothes, and just covered with a strip of carpet, for all the bedding had been pawned. Two wretched children were tending her, themselves looking as much in need of nursing as their mother. Nineteen weeks of enforced idleness had brought them to this pass, and while the mother told the history of that bitter past, she moaned as if all her faith in a future that should atone for it were dead. . . . . On getting outside a young fellow came running after us, and asked us to step inside his house and see if anything could be done for him. A young wife, two pretty children, a cluster of pawn-tickets, and a bare room were all he had to show."

On the after pains of the crisis of 1866, the following extract from a Tory newspaper. It must not be forgotten that the East-end of London, which is here dealt with, is not only the seat of the iron shipbuilding mentioned above, but also of a so-called "home-industry" always underpaid. "A frightful spectacle was to be seen yesterday in one part of the metro-

polis. Although the unemployed thousands of the East End did not parade with their black flags *en masse,* the human torrent was imposing enough. Let us remember what these people suffer. They are dying of hunger. That is the simple and terrible fact. There are 40,000 of them. . . . In our presence, in one quarter of this wonderful metropolis, are packed —next door to the most enormous accumulation of wealth the world ever saw—cheek by jowl with this are 40,000 helpless, starving people. These thousands are now breaking in upon the other quarters; always half-starving, they cry their misery in our ears, they cry to Heaven, they tell us from their miserable dwellings, that it is impossible for them to find work, and useless for them to beg. The local ratepayers themselves are driven by the parochial charges to the verge of pauperism."—("Standard," 5th April, 1866.)

As it is the fashion amongst English capitalists to quote Belgium as the Paradise of the labourer because "freedom of labour," or what is the same thing, "freedom of capital," is there limited neither by the despotism of Trade's Unions, nor by Factory Acts, a word or two on the "happiness" of the Belgian labourer. Assuredly no one was more thoroughly initiated in the mysteries of this happiness than the late M. Ducpétiaux, inspector-general of Belgian prisons and charitable institutions, and member of the central commission of Belgian statistics. Let us take his work: "Budgets économiques des classes ouvrières de la Belgique, Bruxelles, 1855." Here we find among other matters, a normal Belgian labourer's family, whose yearly income and expenditure he calculates on very exact data, and whose conditions of nourishment are then compared with those of the soldier, sailor, and prisoner. The family "consists of father, mother, and four children." Of these 6 persons "four may be usefully employed the whole year through." It is assumed that "there is no sick person nor one incapable of work, among them," nor are there "expenses for religious, moral, and intellectual purposes, except a very small sum for church sittings," nor "contributions to savings banks or benefit societies," nor "expenses due to luxury or the result of improvidence." The father and eldest son, however, allow themselves "the use

of tobacco," and on Sundays "go to the *cabaret*," for which a whole 86 centimes a week are reckoned. "From a general compilation of wages allowed to the labourers in different trades, it follows that the highest average of daily wage is 1 franc 56c., for men, 89 centimes for women, 56 centimes for boys, and 55 centimes for girls. Calculated at this rate, the resources of the family would amount, at the maximum, to 1068 francs a-year . . . In the family . . . taken as typical we have calculated all possible resources. But in ascribing wages to the mother of the family we *raise the question of the direction of the household.* How will its internal economy be cared for? Who will look after the young children? Who will get ready the meals, do the washing and mending? This is the dilemma incessantly presented to the labourers."

According to this the budget of the family is:

The father	300	working	days	at fr.	1·56	...	fr. 468
„ mother	„	„	„	„	89	...	„ 267
„ boy	„	„	„	„	56	...	„ 168
„ girl	„	„	„	„	55	...	„ 165
						Total	fr. 1,068

The annual expenditure of the family would cause a deficit upon the hypothesis that the labourer has the food of:

The man of war's man	fr. 1828	... ...	Deficit	fr. 760
„ soldier	„ 1473	... ...	„	„ 405
„ prisoner	„ 1112	... ...	„	„ 44

"We see that few labouring families can reach, we will not say the average of the sailor or soldier, but even that of the prisoner. The general average (of the cost of each prisoner in the different prisons during the period 1847-1849), has been 63 centimes for all prisons. This figure, compared with that of the daily maintenance of the labourer, shows a difference of 13 centimes. It must be remarked further, that if in the prisons it is necessary to set down in the account the expenses of administration and surveillance, on the other hand, the prisoners have not to pay for their lodging; that the purchases

they make at the canteens are not included in the expenses of maintenance, and that these expenses are greatly lowered in consequence of the large number of persons that make up the establishments, and of contracting for or buying wholesale, the food and other things that enter into their consumption . . . . How comes it, however, that a great number, we might say, a great majority, of labourers, live in a more economical way? It is . . . by adopting expedients, the secret of which only the labourer knows; by reducing his daily rations; by substituting rye-bread for wheat; by eating less meat, or even none at all, and the same with butter and condiments; by contenting themselves with one or two rooms where the family is crammed together, where boys and girls sleep side by side, often on the same pallet; by economy of clothing, washing, decency; by giving up the Sunday diversions; by, in short, resigning themselves to the most painful privations. Once arrived at this extreme limit, the least rise in the price of food, stoppage of work, illness, increases the labourer's distress and determines his complete ruin; debts accumulate, credit fails, the most necessary clothes and furniture are pawned, and finally, the family asks to be enrolled on the list of paupers." (Ducpétiaux, l. c., pp. 151, 154, 155.) In fact, in this "Paradise of capitalists" there follows, on the smallest change in the price of the most essential means of subsistence, a change in the number of deaths and crimes! (See Manifesto of the Maatschappij: De Vlamingen Vooruit! Brussels, 1860, pp. 15, 16.) In all Belgium are 930,000 families, of whom, according to the official statistics, 90,000 are wealthy and on the list of voters = 450,000 persons; 190,000 families of the lower middle-class in towns and villages, the greater part of them constantly sinking into the proletariat, = 1,950,000 persons. Finally, 450,000 working-class families = 2,250,000 persons, of whom the model ones enjoy the happiness depicted by Ducpétiaux. Of the 450,000 working-class families, over 200,000 are on the pauper list.

(*e.*) *The British Agricultural Proletariat.*

Nowhere does the antagonistic character of capitalistic production and accumulation assert itself more brutally than in

the progress of English agriculture (including cattle-breeding) and the retrogression of the English agricultural labourer. Before I turn to his present situation, a rapid retrospect. Modern agriculture dates in England from the middle of the 18th century, although the revolution in landed property, from which the changed mode of production starts as a basis, has a much earlier date.

If we take the statements of Arthur Young, a careful observer, though a superficial thinker, as to the agricultural labourer of 1771, the latter plays a very pitiable part compared with his predecessor of the end of the 14th century, "when the labourer . . . could live in plenty, and accumulate wealth,"[1] not to speak of the 15th century, "the golden age of the English labourer in town and country." We need not, however, go back so far. In a very instructive work of the year 1777 we read: "The great farmer is nearly mounted to a level with him [the gentleman]; while the poor labourer is depressed almost to the earth. His unfortunate situation will fully appear, by taking a comparative view of it, only forty years ago, and at present. . . . Landlord and tenant . . . have both gone hand in hand in keeping the labourer down."[2] It is then proved in detail that the real agricultural wages between 1737 and 1777 fell nearly ¼ or 25 per cent. "Modern policy," says Dr. Richard Price also, "is, indeed, more favourable to the higher classes of people; and the consequences may in time prove that the whole kingdom will consist of only gentry and beggars, or of grandees and slaves."[3]

[1] James E. Thorold Rogers. (Prof. of Polit. Econ. in the University of Oxford.) A History of Agriculture and Prices in England. Oxford, 1866, v. I., p. 690. This work, the fruit of patient and diligent labour, contains in the two volumes that have so far appeared, only the period from 1259 to 1400. The second volume contains simply statistics. It is the first authentic "History of Prices" of the time that we possess.

[2] Reasons for the late increase of the Poor-Rates, or a comparative view of the price of labour and provisions. Lond., 1777, pp. 5, 11.

[3] Dr. Richard Price: Observations on Reversionary Payments, 6th Ed. By W. Morgan, Lond., 1803, v. II., pp. 158, 159. Price remarks on p. 159: "The nominal price of day-labour is at present no more than about four times, or, at most, five times higher than it was in the year 1514. But the price of corn is seven times, and of flesh-meat and raiment about fifteen times higher. So far, therefore, has the price of labour been even from advancing in proportion to the increase in the expenses of

Nevertheless, the position of the English agricultural labourer from 1770 to 1780, with regard to his food and dwelling, as well as to his self-respect, amusements, &c., is an ideal never attained again since that time. His average wage expressed in pints of wheat was from 1770 to 1771, 90 pints, in Eden's time (1797) only 65, in 1808 but 60.[1]

The state of the agricultural labourer at the end of the Anti-Jacobin war, during which landed proprietors, farmers, manufacturers, merchants, bankers, stockbrokers, army-contractors, &c., enriched themselves so extraordinarily, has been already indicated above. The nominal wages rose in consequence partly of the bank-note depreciation, partly of a rise in the price of the primary means of subsistence independent of this depreciation. But the actual wage-variation can be evidenced in a very simple way, without entering into details that are here unnecessary. The Poor Law and its administration were in 1795 and 1814 the same. It will be remembered how this law was carried out in the country districts: in the form of alms the parish made up the nominal wage to the nominal sum required for the simple vegetation of the labourer. The ratio between the wages paid by the farmer, and the wage-deficit made good by the parish, shows us two things. First, the falling of wages below their minimum; second, the degree in which the agricultural labourer was a compound of wage-labourer and pauper, or the degree in which he had been turned into a serf of his parish. Let us take one county that represents the average condition of things in all counties. In Northamptonshire, in 1795, the average weekly wage was 7s. 6d.; the total yearly expenditure of a family of 6 persons, £36 12s. 5d.; their total income, £29 18s.; deficit made good by the parish, £6 14s. 5d. In 1814, in the same county, the weekly wage was 12s. 2d.; the total yearly expenditure of a family of 5 persons, £54 18s. 4d.; their total income, £36 2s.; deficit made good by the parish, £18 6s. 4d.[2] In 1795 the deficit was less than $\frac{1}{4}$ the wage, in 1814, more than half. It is self-

living, that it does not appear that it bears now half the proportion to those expenses that it did bear."

[1] Barton, l. c., p. 26. For the end of the 18th century cf. Eden, l. c.

[2] Parry, l. c., p. 86.

evident that, under these circumstances, the meagre comforts that Eden still found in the cottage of the agricultural labourer, had vanished by 1814.[1] Of all the animals kept by the farmer, the labourer, the *instrumentum vocale*, was, thenceforth, the most oppressed, the worst nourished, the most brutally treated.

The same state of things went on quietly until "the Swing riots, in 1830, revealed to us [*i.e.*, the ruling classes] by the light of blazing corn-stacks, that misery and black mutinous discontent smouldered quite as fiercely under the surface of agricultural as of manufacturing England."[2] At this time, Sadler, in the House of Commons, christened the agricultural labourers "white slaves," and a Bishop echoed the epithet in the Upper House. The most notable political economist of that period—E. G. Wakefield—says: "The peasant of the South of England . . . is not a freeman, nor is he a slave; he is a pauper."[3]

The time just before the repeal of the Corn Laws threw new light on the condition of the agricultural labourers. On the one hand, it was to the interest of the middle-class agitators to prove how little the Corn Laws protected the actual producers of the corn. On the other hand, the industrial bourgeoisie foamed with sullen rage at the denunciations of the factory system by the landed aristocracy, at the pretended sympathy with the woes of the factory operatives, of those utterly corrupt, heartless, and genteel loafers, and at their "diplomatic zeal" for factory legislation. It is an old English proverb that "when thieves fall out, honest men come by their own," and, in fact, the noisy, passionate quarrel between the two fractions of the ruling class about the question, which of the two exploited the labourers the more shamefully, was on each hand the midwife of the truth. Earl Shaftesbury, then Lord Ashley, was commander-in-chief in the aristocratic, philanthropic, anti-factory campaign. He was, therefore, in 1845, a favourite subject in the revelations of the "Morning Chronicle" on the condition of the agricultural labourers. This journal,

[1] id., p. 213. [2] S. Laing. l. c., p. 62.
[3] England and America. Lond., 1833. Vol. I., p. 47.

then the most important Liberal organ, sent special commissioners into the agricultural districts, who did not content themselves with mere general descriptions and statistics, but published the names both of the labouring families examined and of their landlords. The following list gives the wages paid in three villages in the neighbourhood of Blanford, Wimbourne, and Poole. The villages are the property of Mr. G. Bankes and of the Earl of Shaftesbury. It will be noted that, just like Bankes, this "low church pope," this head of English pietists, pockets a great part of the miserable wages of the labourers under the pretext of house-rent:—

FIRST VILLAGE.

(*a*) Children.	(*b*) Number of Members in Family.	(*c*) Weekly Wage of the Men.	(*d*) Weekly Wage of the Children.	(*e*) Weekly Income of the whole Family.	(*f*) Weekly Rent.	(*g*) Total weekly wage after deduction of Rent.	(*h*) Weekly Income per head.
		s. d.		s. d.	s. d.	s. d.	s. d.
2	4	8 0	—	8 0	2 0	6 0	1 6
3	5	8 0	—	8 0	1 6	6 6	1 3½
2	4	8 0	—	8 0	1 0	7 0	1 9
2	4	8 0	—	8 0	1 0	7 0	1 9
6	8	7 0	1/-, 1/6,	10 6	2 0	8 6	1 0¼
3	5	7 0	1/-, 2/-	7 0	1 4	5 8	1 1½

SECOND VILLAGE.

		s. d.		s. d.	s. d.	s. d.	s. d.
6	8	7 0	1/-, 1/6,	10 0	1 6	8 6	1 0¾
6	8	7 0	1/., 1/6,	7 0	1 3½	5 8½	0 8½
8	10	7 0	—	7 0	1 3½	5 8½	0 7
4	6	7 0	—	7 0	1 6½	5 5½	0 11
3	5	7 0	—	7 0	1 6½	5 5½	1 1

THIRD VILLAGE.

(*a*) Children.	(*b*) Number of Members in Family.	(*c*) Weekly Wage of the Men.	(*d*) Weekly Wage of the Children.	(*e*) Weekly Income of the whole Family.	(*f*) Weekly Rent.	(*g*) Total weekly wage after deduction of Rent.	(*h*) Weekly Income per head.
		s. d.		s. d.	s. d.	s. d.	s. d.
4	6	7 0	—	7 0	1 0	6 0	1 0
3	5	7 0	1/-, 2/-,	11 6	0 10	10 8	2 1½
0	2	5 0	1/-, 2/6,	5 0	1 0	4 0	2 0 [1]

The repeal of the Corn Laws gave a marvellous impulse to English agriculture.[2] Drainage on the most extensive scale, new methods of stall-feeding, and of the artificial cultivation of green crops, introduction of mechanical manuring apparatus, new treatment of clay soils, increased use of mineral manures, employment of the steam-engine, and of all kinds of new machinery, more intensive cultivation generally, characterised this epoch. Mr. Pusey, Chairman of the Royal Agricultural Society, declares that the (relative) expenses of farming have been reduced nearly one-half by the introduction of new machinery. On the other hand, the actual return of the soil rose rapidly. Greater outlay of capital per acre, and, as a consequence, more rapid concentration of farms, were essential conditions of the new method.[3] At the same time, the area under cultivation increased, from 1846 to 1856, by 464,119 acres, without reckoning the great area in the Eastern Counties

[1] London Economist, March 29th, 1845, p. 290.

[2] The landed aristocracy advanced themselves to this end, of course per Parliament, funds from the State Treasury, at a very low rate of interest, which the farmers have to make good at a much higher rate.

[3] The decrease of the middle-class farmers can be seen especially in the census category: "Farmer's son, grandson, brother, nephew, daughter, grand-daughter, sister, niece"; in a word, the members of his own family, employed by the farmer. This category numbered, in 1851, 216,851 persons; in 1861, only 176,151. From 1851 to 1871, the farms under 20 acres fell by more than 900 in number; those between 50 and 75 acres fell from 8,253 to 6,370; the same thing occurred with all other farms under 100 acres. On the other hand, during the same twenty years, the number of large farms increased; those of 300-500 acres rose from 7,771 to 8,410, those of more than 500 acres from 2,755 to 3,914, those of more than 1,000 acres from 492 to 582.

which was transformed from rabbit warrens and poor pastures into magnificent cornfields. It has already been seen that, at the same time, the total number of persons employed in agriculture fell. As far as the actual agricultural labourers of both sexes and of all ages are concerned, their number fell from 1,241,396, in 1851, to 1,163,217 in 1861.[1] If the English Registrar-General, therefore, rightly remarks: "The increase of farmers and farm-labourers, since 1801, bears no kind of proportion . . . to the increase of agricultural produce,"[2] this disproportion obtains much more for the last period, when a positive decrease of the agricultural population went hand in hand with increase of the area under cultivation, with more intensive cultivation, unheard-of accumulation of the capital incorporated with the soil, and devoted to its working, an augmentation in the products of the soil without parallel in the history of English agriculture, plethoric rent-rolls of landlords, and growing wealth of the capitalist farmers. If we take this, together with the swift, unbroken extension of the markets, viz., the towns, and the reign of Free Trade, then the agricultural labourer was at last, *post tot discrimina rerum*, placed in circumstances that ought, *secundum artem*, to have made him drunk with happiness.

But Professor Rogers comes to the conclusion that the lot of the English agricultural labourer of to-day, not to speak of his predecessor in the last half of the 14th and in the 15th century, but only compared with his predecessor from 1770 to 1780, has changed for the worse to an extraordinary extent, that "the peasant has again become a serf," and a serf worse fed and worse clothed.[3] Dr. Julian Hunter, in his epoch-making report on the dwellings of the agricultural labourers, says; "The cost of the hind" (a name for the agricultural labourer, inherited from the time of serfdom) "is fixed at the lowest possible amount on which he can live . . . . the supplies of wages and shelter are not calculated on the profit

[1] The number of shepherds increased from 12,517 to 25,559.

[2] Census. l. c., p. 36.

[3] Rogers. l. c. p. 693, p. 10. Mr. Rogers belongs to the Liberal School, is a personal friend of Cobden and Bright, and therefore no laudator temporis acti.

to be derived from him. He is a zero in farming calculations.[1] . . . . The means [of subsistence] being always supposed to be a fixed quantity.[2] As to any further reduction of his income, he may say, *nihil habeo nihil curo.* He has no fears for the future, because he has now only the spare supply necessary to keep him. He has reached the zero from which are dated the calculations of the farmer. Come what will, he has no share either in prosperity or adversity."[3]

In the year 1863, an official inquiry took place into the conditions of nourishment and labour of the criminals condemned to transportation and penal servitude. The results are recorded in two voluminous blue books. Among other things it is said: "From an elaborate comparison between the diet of convicts in the convict prisons in England, and that of paupers in workhouses and of free labourers in the same country . . . it certainly appears that the former are much better fed than either of the two other classes,"[4] whilst "the amount of labour required from an ordinary convict under penal servitude is about one half of what would be done by an ordinary day labourer."[5] A few characteristic depositions of witnesses: John Smith, governor of the Edinburgh prison, deposes: No. 5056. "The diet of the English prisons [is] superior to that of ordinary labourers in England." No. 50. "It is the fact . . . that the ordinary agricultural labourers in Scotland very seldom get any meat at all." Answer No. 3047. "Is there anything that you are aware of to account for the necessity of feeding them very much better than ordinary labourers?—Certainly not." No. 3048. "Do you think that further experiments ought to be made in order to ascertain whether a dietary might not be hit upon for prisoners employed on public works nearly approaching to the dietary of free labourers?"[6] . . .

[1] Public Health. Seventh Report, 1864, p. 242. It is therefore nothing unusual either for the landlord to raise a labourer's rent as soon as he hears that he is earning a little more, or for the farmer to lower the wage of the labourer, "because his wife has found a trade," l. c.

[2] l. c. p. 135. [3] l. c. p. 134.

[4] Report of the Commissioners . . . . relating to transportation and penal servitude, Lond. 1863, pp. 42. 50.

[5] l. c. p. 77. Memorandum by the Lord Chief Justice.

[6] l. c. Vol. II. Minutes of Evidence.

"He [the agricultural labourer] might say: 'I work hard, and have not enough to eat, and when in prison I did not work harder where I had plenty to eat, and therefore it is better for me to be in prison again than here.'"[1] From the tables appended to the first volume of the Report I have compiled the annexed comparative summary.

WEEKLY AMOUNT OF NUTRIMENT.

	Quantity of Nitrogenous Ingredients.	Quantity of Non-Nitrogenous Ingredients.	Quantity of Mineral Matter.	Total.
	Ounces	*Ounces*	*Ounces*	*Ounces.*
Portland (convict)	28·95	150·06	4·68	183·69
Sailor in the Navy	29·63	152·91	4·52	187·06
Soldier	25·55	114·49	3·94	14 98
Working Coachmaker	24·53	162·06	4·23	190·82
Compositor	21·24	100·83	3·12	125·19
Agricultural labourer	17·73	118·06	3.29	139·08[1]

The general result of the inquiry by the medical commission of 1863, on the food of the lowest fed classes, is already known to the reader. He will remember that the diet of a great part of the agricultural labourers' families is below the mimimum necessary "to arrest starvation diseases." This is especially the case in all the purely rural districts of Cornwall, Devon, Somerset, Wilts, Stafford, Oxford, Berks, and Herts. "The nourishment obtained by the labourer himself," says Dr. E. Smith, "is larger than the average quantity indicates, since he eats a larger share. . . . necessary to enable him to perform his labour. . . . of food than the other members of the family, including in the poorer districts nearly all the meat and bacon. . . . The quantity of food obtained by the wife and also by the children at the period of rapid growth, is in many cases, in almost every county, deficient, and particularly

[1] l. c. Vol I. Appendix p. 280.
[2] l. c. pp. 274, 275.

in nitrogen."[1] The male and female servants living with the farmers themselves are sufficiently nourished. Their number fell from 288,277 in 1851, to 204,962 in 1861. "The labour of women in the fields," says Dr. Smith, "whatever may be its disadvantages, ... is under present circumstances of great advantage to the family, since it adds that amount of income which . . . provides shoes and clothing and pays the rent, and thus enables the family to be better fed."[2] One of the most remarkable results of the inquiry was that the agricultural labourer of England, as compared with other parts of the United Kingdom, "is considerably the worst fed," as the appended table shows:

Quantities of Carbon and Nitrogen weekly consumed by an average agricultural adult.

	Carbon, grains.	Nitrogen, grains.
England	46·673	1·594
Wales	48·354	2·031
Scotland	48·980	2·348
Ireland	43·366	2·434.[3]

[1] Public Health, Sixth Report, 1863, pp. 238, 249, 261, 262.

[2] l. c. p. 262.

[3] l. c. p. 17. The English agricultural labourer receives only ¼ as much milk, and ½ as much bread as the Irish. Arthur Young in his "Tour through Ireland," at the beginning of this century, already noticed the better nourishment of the latter. The reason is simply this, that the poor Irish farmer is incomparably more humane than the rich English. As regards Wales, that which is said in the text holds only for the south-west. All the doctors there agree that the increase of the deathrate through tuberculosis, scrofula, etc., increases in intensity with the deterioration of the physical condition of the population, and all ascribe this deterioration to poverty. "His (the farm labourer's) keep is reckoned at about five pence a day, but in many districts it was said to be of much less cost to the farmer" [himself very poor]. . . . "A morsel of the salt meat or bacon, . . . salted and dried to the texture of mahogany, and hardly worth the difficult process of assimilation. . . . . is used to flavour a large quantity of broth or gruel, of meal and leeks, and day after day this is the labourer's dinner." The advance of industry resulted for him, in this harsh and damp climate, in "the abandonment of the solid homespun clothing in favour of the cheap and so-called cotton goods," and of stronger drinks for so-called tea. "The agriculturist, after several hours' exposure to wind and rain, gains his cottage to sit by a fire of peat or of balls of clay and small coal kneaded together, from which volumes of carbonic and sulphurous acids are poured forth. His walls are of mud and stones, his floor the bare earth which was there before the hut was built, his roof a mass of loose and sodden thatch. Every crevice is stopped to maintain warmth, and in an atmosphere of diabolic odour, with a mud floor, with his only

"To the insufficient quantity and miserable quality of the house accommodation generally had," says Dr. Simon, in his official Health Report, "by our agricultural labourers, almost every page of Dr. Hunter's report bears testimony. And gradually, for many years past, the state of the labourer in these respects has been deteriorating, house-room being now greatly more difficult for him to find, and, when found, greatly less suitable to his needs than, perhaps, for centuries had been the case. Especially within the last twenty or thirty years, the evil has been in very rapid increase, and the household circumstances of the labourer are now in the highest degree deplorable. Except in so far as they whom his labour enriches, see fit to treat him with a kind of pitiful indulgence, he is quite peculiarly helpless in the matter. Whether he shall find house-room on the land which he contributes to till, whether the house-room which he gets shall be human or swineish, whether he shall have the little space of garden that so vastly lessens the pressure of his poverty—all this does not depend on his

clothes drying on his back, he often sups and sleeps with his wife and children. Obstetricians who have passed parts of the night in such cabins have described how they found their feet sinking in the mud of the floor, and they were forced (easy task) to drill a hole through the wall to effect a little private respiration. It was attested by numerous witnesses in various grades of life, that to these insanitary influences, and many more, the underfed peasant was nightly exposed, and of the result, a debilitated and scrofulous people, there was no want of evidence. . . . . The statements of the relieving officers of Carmarthenshire and Cardiganshire show in a striking way the same state of things. There is besides "a plague more horrible still, the great number of idiots." Now a word on the climatic conditions. "A strong south-west wind blows over the whole country for 8 or 9 months in the year, bringing with it torrents of rain, which discharge principally upon the western slopes of the hills. Trees are rare, except in sheltered places, and where not protected, are blown out of all shape. The cottages generally crouch under some bank, or often in a ravine or quarry, and none but the smallest sheep and native cattle can live on the pastures. . . . The young people migrate to the eastern mining districts of Glamorgan and Monmouth. Carmarthenshire is the breeding ground of the mining population and their hospital. The population can therefore barely maintain its numbers." Thus in Cardiganshire:

	1851.	1861.
Males	45,155	44,446
Females	52,459	52,955
	97,614	97,401

Dr. Hunter's Report in Public Health, Seventh Report. 1864. pp. 498-502, passim.

willingness and ability to pay reasonable rent for the decent accommodation he requires, but depends on the use which others may see fit to make of their 'right to do as they will with their own.' However large may be a farm, there is no law that a certain proportion of labourers' dwellings (much less of decent dwellings) shall be upon it; nor does any law reserve for the labourer ever so little right in that soil to which his industry is as needful as sun and rain . . . . An extraneous element weighs the balance heavily against him . . . . the influence of the Poor Law in its provisions concerning settlement and chargeability.[1] Under this influence, each parish has a pecuniary interest in reducing to a minimum the number of its resident labourers:—for, unhappily, agricultural labour instead of implying a safe and permanent independence for the hard-working labourer and his family, implies for the most part only a longer or shorter circuit to eventual pauperism—a pauperism which, during the whole circuit, is so near, that any illness or temporary failure of occupation necessitates immediate recourse to parochial relief—and thus all residence of agricultural population in a parish is glaringly an addition to its poor rates . . . . Large proprietors[2] . . . . have but to resolve that there shall be no labourers' dwellings on their estates, and their estates will thenceforth be virtually free from half their responsibility for the poor. How far it has been intended, in the English constitution and law, that this kind of unconditional property in land should be acquirable, and that a landlord, 'doing as he wills with his own,' should be able to treat the cultivators of the soil as aliens, whom he may expel from his territory, is a question which I do not pretend to discuss . . . . For that (power) of eviction . . . . does not exist only in theory. On a very large scale it prevails in practice—prevails . . . . as a main governing condition in the household circumstances of agricultural labour . . . . As regards

[1] In 1865 this law was improved to some extent. It will soon be learnt from experience that tinkering of this sort is of no use.

[2] In order to understand that which follows, we must remember that "Close Villages" are those whose owners are one or two large landlords. "Open villages," those whose soil belongs to many smaller landlords. It is in the latter that building speculators can build cottages and lodging-houses.

the extent of the evil, it may suffice to refer to the evidence which Dr. Hunter has compiled from the last census, that destruction of houses, notwithstanding increased local demands for them, had, during the last ten years, been in progress in 821 separate parishes or townships of England, so that irrespectively of persons who had been forced to become non-resident (that is in the parishes in which they work), these parishes and townships were receiving in 1861, as compared with 1851, a population $5\frac{1}{3}$ per cent. greater, into house-room $4\frac{1}{2}$ per cent. less . . . . When the process of depopulation has completed itself, the result, says Dr. Hunter, is a show-village where the cottages have been reduced to a few, and where none but persons who are needed as shepherds, gardeners, or gamekeepers, are allowed to live ; regular servants who receive the good treatment usual to their class.[1] But the land requires cultivation, and it will be found that the labourers employed upon it are not the tenants of the owner, but that they come from a neighbouring open village, perhaps three miles off, where a numerous small proprietary had received them when their cottages were destroyed in the close villages around. Where things are tending to the above result, often the cottages which stand, testify, in their unrepaired and wretched condition, to the extinction to which they are doomed. They are seen standing in the various stages of natural decay. While the shelter holds together, the labourer is permitted to rent it, and glad enough he will often be to do so, even at the price of decent lodging. But no repair, no improvement shall it receive, except such as its penniless occupants can supply. And when at last it becomes quite uninhabitable—uninhabitable even to the humblest standard of serfdom—it will be but one more destroyed cottage, and future poor-rates will be somewhat lightened.

[1] A show village of this kind looks very nice, but is as unreal as the villages that Catherine II. saw on her journey to the Crimea. In recent times the shepherd also has often been banished from these show villages; *e.g.*, near Market Harboro' is a sheep-farm of about 500 acres, which only employs the labour of one man. To reduce the long trudges over these wide plains, the beautiful pastures of Leicester and Northampton, the shepherd used to get a cottage on the farm. Now they give him a thirteenth shilling a week for lodging, that he must find far away in an open village.

While great owners are thus escaping from poor-rates through the depopulation of lands over which they have control, the nearest town or open village receive the evicted labourers: the nearest, I say, but this "nearest" may mean three or four miles distant from the farm where the labourer has his daily toil. To that daily toil there will then have to be added, as though it were nothing, the daily need of walking six or eight miles for power of earning his bread. And whatever farm-work is done by his wife and children, is done at the same disadvantage. Nor is this nearly all the toil which the distance occasions him. In the open village, cottage-speculators buy scraps of land, which they throng as densely as they can with the cheapest of all possible hovels. And into those wretched habitations (which, even if they adjoin the open country, have some of the worst features of the worst town residences) crowd the agricultural labourers of England.[1] . . . . Nor on the other hand must it be supposed that even when the labourer is housed upon the lands which he cultivates, his household circumstances are generally such as his life of productive industry would seem to deserve. Even on princely estates . . . . his cottage . . . . may be of the meanest description. There are

[1] "The labourers' houses (in the open villages, which, of course, are always overcrowded) are usually in rows, built with their backs against the extreme edge of the plot of land which the builder could call his, and on this account are not allowed light and air, except from the front." (Dr. Hunter's Report, l. c., p. 135.) Very often the beerseller or grocer of the village is at the same time the letter of its houses. In this case the agricultural labourer finds in him a second master, besides the farmer. He must be his customer as well as his tenant. "The hind with his 10s. a week, minus a rent of £4 a year . . . . is obliged to buy at the seller's own terms, his modicum of tea, sugar, flour, soap, candles, and beer." (l. c., p. 132.) These open villages form, in fact, the "penal settlements" of the English agricultural proletariat. Many of the cottages are simply lodging-houses, through which all the rabble of the neighbourhood passes. The country labourer and his family who had often, in a way truly wonderful, preserved, under the foulest conditions, a thoroughness and purity of character, go, in these, utterly to the devil. It is, of course, the fashion amongst the aristocratic shylocks to shrug their shoulders pharisaically at the building speculators, the small landlords, and the open villages. They know well enough that their "close villages" and "show villages" are the the birth-places of the open villages, and could not exist without them. "The labourers . . . . were it not for the small owners, would, for by far the most part, have to sleep under the trees of the farms on which they work." (l. c., p. 135.) The system of "open" and "closed" villages obtains in all the Midland counties and throughout the East of England.

landlords who deem any stye good enough for their labourer and his family, and who yet do not disdain to drive with him the hardest possible bargain for rent.[1] It may be but a ruinous one-bedroomed hut, having no fire-grate, no privy, no opening window, no water supply but the ditch, no garden—but the labourer is helpless against the wrong . . . . And the Nuisances Removal Acts . . . . are . . . . a mere dead letter . . . . in great part dependent for their working on such cottage owners as the one from whom his (the labourer's) hovel is rented . . . . From brighter, but exceptional scenes, it is requisite in the interests of justice, that attention should again be drawn to the overwhelming preponderance of facts which are a reproach to the civilization of England. Lamentable indeed, must be the case, when, notwithstanding all that is evident with regard to the quality of the present accommodation, it is the common conclusion of competent observers that even the general badness of dwellings is an evil infinitely less urgent than their mere numerical insufficiency. For years the overcrowding of rural labourers' dwellings has been a matter of deep concern, not only to persons who care for sanitary good, but to persons who care for decent and moral life. For, again and again in phrases so uniform that they seem stereotyped, reporters on the spread of epidemic disease in rural districts, have insisted on the extreme importance of that over-crowding, as an influence which renders it a quite hopeless task, to attempt the limiting of any infection which is introduced. And again and again it has been pointed out that, notwithstanding the many salubrious influences which there are in country life, the crowding which so favours the

[1] "The employer . . . . is . . . . directly or indirectly securing to himself the profit on a man employed at 10s a week, and receiving from this poor hind £4 or £5 annual rent for houses not worth £20 in a really free market, but maintained at their artificial value by the power of the owner to say 'Use my house, or go seek a hiring elsewhere, without a character from me.' . . . . Does a man wish to better himself, to go as a plate-layer on the railway, or to begin quarry-work, the same power is ready with 'Work for me at this low rate of wages, or begone at a week's notice; take your pig with you, and get what you can for the potatoes growing in your garden.' Should his interest appear to be better served by it, an enhanced rent is sometimes preferred in these cases by the owner (*i.e.*, the farmer) as the penalty for leaving his service." (Dr. Hunter, l. c., p. 132.)

extension of contagious disease, also favours the origination of disease which is not contagious. And those who have denounced the over-crowded state of our rural population have not been silent as to a further mischief. Even where their primary concern has been only with the injury to health, often almost perforce they have referred to other relations on the subject. In showing how frequently it happens that adult persons of both sexes, married and unmarried, are huddled together in single small sleeping rooms, their reports have carried the conviction that, under the circumstances they describe, decency must always be outraged, and morality almost of necessity must suffer.[1] Thus, for instance, in the appendix of my last annual report, Dr. Ord, reporting on an outbreak of fever at Wing, in Buckinghamshire, mentions how a young man who had come thither from Wingrave with fever, "in the first days of his illness slept in a room with nine other persons. Within a fortnight several of these persons were attacked, and in the course of a few weeks five out of the nine had fever, and one died" . . . . From Dr. Harvey, of St. George's Hospital, who, on private professional business, visited Wing during the time of the epidemic, I received information exactly in the sense of the above report . . . . "A young woman having fever, lay at night in a room occupied by her father and mother, her bastard child, two young men (her brothers), and her two sisters, each with a bastard child—10 persons in all. A few weeks ago 13 persons slept in it."[2]

Dr. Hunter investigated 5,375 cottages of agricultural labourers, not only in the purely agricultural districts, but in all counties of England. Of these, 2,195 had only one bed-

[1] "New married couples are no edifying study for grown-up brothers and sisters; and though instances must not be recorded, sufficient data are remembered to warrant the remark, that great depression and sometimes death are the lot of the female participator in the offence of incest." (Dr. Hunter, l. c., p. 137.) A member of the rural police who had for many years been a detective in the worst quarters of London, says of the girls of his village: "their boldness and shamelessness I never saw equalled during some years of police life and detective duty in the worst parts of London. . . . . They live like pigs, great boys and girls, mothers and fathers, all sleeping in one room, in many instances." (Child. Empl. Com. Sixth Report, 1867, p. 77 sq. 155.)

[2] Public Health. Seventh Report, 1864, pp. 9, 14 passim.

room (often at the same time used as living-room), 2,930 only two, and 250, more than two. I will give a few specimens culled from a dozen counties.

(1.) Bedfordshire.

Wrestlingworth. Bedrooms about 12 feet long and 10 broad, although many are smaller than this. The small, one-storied cots are often divided by partitions into two bedrooms, one bed frequently in a kitchen, 5 feet 6 inches in height. Rent, £3 a year. The tenants have to make their own privies, the landlord only supplies a hole. As soon as one has made a privy, it is made use of by the whole neighbourhood. One house, belonging to a family called Richardson, was of quite unapproachable beauty. "Its plaster walls bulged very like a lady's dress in a curtsey. One gable end was convex, the other concave, and on this last, unfortunately, stood the chimney, a curved tube of clay and wood like an elephant's trunk. A long stick served as prop to prevent the chimney from falling. The doorway and window were rhomboidal." Of 17 houses visited, only 4 had more than one bedroom, and those four overcrowded. The cots with one bedroom sheltered 3 adults and 3 children, a married couple with 6 children, &c.

Dunton. High rents, from £4 to £5; weekly wages of the man, 10s. They hope to pay the rent by the straw-plaiting of the family. The higher the rent, the greater the number that must work together to pay it. Six adults, living with 4 children in one sleeping apartment, pay £3 10s. for it. The cheapest house in Dunton, 15 feet long externally, 10 broad, let for £3. Only one of the houses investigated had 2 bedrooms. A little outside the village, a house whose "tenants dunged against the house-side," the lower 9 inches of the door eaten away through sheer rottenness; the doorway, a single opening closed at night by a few bricks, ingeniously pushed up after shutting and covered with some matting. Half a window, with glass and frame, had gone the way of all flesh. Here, without furniture, huddled together, were 3 adults and 5 children. Dunton is not worse than the rest of Biggleswade Union.

(2.) Berkshire.

Beenham. In June, 1864, a man, his wife and 4 children lived in a cot (one-storied cottage). A daughter came home from service with scarlet fever. She died. One child sickened and died. The mother and one child were down with typhus when Dr. Hunter was called in. The father and one child slept outside, but the difficulty of securing isolation was seen here, for in the crowded market of the miserable village lay the linen of the fever-striken household, waiting for the wash. The rent of H.'s house, 1s. a week; one bedroom for man, wife, and 6 children. One house let for 8d. a-week, 14 feet 6 inches long, 7 feet broad; kitchen, 6 feet high; the bedroom without window, fire-place, door, or opening, except into the lobby; no garden. A man lived here for a little while, with two grown-up daughters and one grown-up son; father and son slept on the bed, the girls in the passage. Each of the latter had a child while the family was living here, but one went to the workhouse for her confinement and then came home.

(3.) Buckinghamshire.

30 cottages—on 1,000 acres of land—contained here about 130-140 persons. The parish of *Bradenham* comprises 1,000 acres; it numbered, in 1851, 36 houses and a population of 84 males and 54 females. This inequality of the sexes was partly remedied in 1861, when they numbered 98 males and 87 females; increase in 10 years of 14 men and 33 women. Meanwhile, the number of houses was one less.

Winslow. Great part of this newly built in good style; demand for houses appears very marked, since very miserable cots let at 1s. to 1s. 3d. per week.

Water Eaton. Here the landlords, in view of the increasing population, have destroyed about 20 per cent. of the existing houses. A poor labourer, who had to go about 4 miles to his work, answered the question, whether he could not find a cot nearer: "No; they know better than to take a man in with my large family."

Tinker's End, near Winslow. A bedroom in which were 4 adults and 4 children; 11 feet long, 9 feet broad, 6 feet 5 inches high at its highest part; another 11 feet 3 inches by 9 feet, 5 feet 10 inches high, sheltered 6 persons. Each of these families had less space than is considered necessary for a convict. No house had more than one bedroom, not one of them a back-door; water very scarce; weekly rent from 1s. 4d. to 2s. In 16 of the houses visited, only 1 man that earned 10s. a-week. The quantity of air for each person under the circumstances just described corresponds to that which he would have if he were shut up in a box of 4 feet measuring each way, the whole night. But then, the ancient dens afforded a certain amount of unintentional ventilation.

(4.) Cambridgeshire.

Gamblingay belongs to several landlords. It contains the wretchedest cots to be found anywhere. Much straw-plaiting. "A deadly lassitude, a hopeless surrendering up to filth," reigns in Gamblingay. The neglect in its centre, becomes mortification at its extremities, north and south, where the houses are rotting to pieces. The absentee landlords bleed this poor rookery too freely. The rents are very high; 8 or 9 persons packed in one sleeping apartment, in 2 cases 6 adults, each with 1 or 2 children in one small bedroom.

(5.) Essex.

In this county, diminutions in the number of persons and of cottages go, in many parishes, hand in hand. In not less than 22 parishes, however, the destruction of houses has not prevented increase of population, or has not brought about that expulsion which, under the name "migration to towns," generally occurs. In Fingringhoe, a parish of 3443 acres, were in 1851, 145 houses; in 1861, only 110. But the people did not wish to go away, and managed even to increase under these circumstances. In 1851, 252 persons inhabited 61 houses, but in 1861, 262 persons were squeezed into 49 houses. In Basilden, in 1851, 157 persons lived on 1827 acres, in 35

houses; at the end of ten years, 180 persons in 27 houses. In the parishes of Fingringhoe, South Farnbridge, Widford, Basilden, and Ramsden Crags, in 1851, 1392 persons were living on 8449 acres in 316 houses; in 1861, on the same area, 1473 persons in 249 houses.

(6.) Herefordshire.

This little county has suffered more from the "eviction-spirit" than any other in England. At Nadby, over-crowded cottages generally, with only 2 bedrooms, belonging for the most part to the farmers. They easily let them for £3 or £4 a-year, and paid a weekly wage of 9s.

(7.) Huntingdon.

Hartford had, in 1851, 87 houses; shortly after this, 19 cottages were destroyed in this small parish of 1720 acres; population in 1831, 452; in 1852, 832; and in 1861, 341. 14 cottages, each with 1 bedroom, were visited. In one, a married couple, 3 grown-up sons, 1 grown-up daughter, 4 children—in all 10; in another, 3 adults, 6 children. One of these rooms, in which 8 people slept, was 12 feet 10 inches long, 12 feet 2 inches broad, 6 feet 9 inches high: the average, without making any deduction for projections into the apartment, gave about 130 cubic feet per head. In the 14 sleeping rooms, 34 adults and 33 children. These cottages are seldom provided with gardens, but many of the inmates are able to farm small allotments at 10s. or 12s. per rood. These allotments are at a distance from the houses, which are without privies. The family "must either go to the allotment to deposit their ordures," or, as happens in this place, saving your presence, "use a closet with a trough set like a drawer in a chest of drawers, and drawn out weekly and conveyed to the allotment to be emptied where its contents were wanted." In Japan, the circle of life-conditions moves more decently than this.

(8.) Lincolnshire.

Langtoft. A man lives here, in Wright's house, with his

wife, her mother, and 5 children; the house has a front kitchen, scullery, bedroom over the front kitchen; front kitchen and bedroom, 12 feet 2 inches by 9 feet 5 inches; the whole ground floor, 21 feet 2 inches by 9 feet 5 inches. The bedroom is a garret; the walls run together into the roof like a sugar-loaf, a dormer-window opening in front. "Why did he live here? On account of the garden? No; it is very small. Rent? High, 1s. 3d. per week. Near his work? No; 6 miles away, so that he walks daily, to and fro, 12 miles. He lived there, because it was a tenantable cot," and because he wanted to have a cot for himself alone, anywhere, at any price, and in any conditions. The following are the statistics of 12 houses in Langtoft, with 12 bedrooms, 38 adults, and 36 children.

TWELVE HOUSES IN LANGTOFT.

Houses.	Bedrooms.	Adults.	Children.	Number of Persons.	Houses.	Bedrooms.	Adults.	Children.	Number of Persons.
No. 1.	1	3	5	8	No. 7.	1	3	3	6
,, 2.	1	4	3	7	,, 8.	1	3	2	5
,, 3.	1	4	4	8	,, 9.	1	2	0	2
,, 4.	1	5	4	9	,, 10.	1	2	3	5
,, 5.	1	2	2	4	,, 11.	1	3	3	6
,, 6.	1	5	3	8	,, 12.	1	2	4	6

(9.) Kent.

Kennington, very seriously over-populated in 1859, when diphtheria appeared, and the parish doctor instituted a medical inquiry into the condition of the poorer classes. He found that in this locality, where much labour is employed, various cots had been destroyed and no new ones built. In one district stood four houses, named birdcages; each had 4 rooms of the following dimensions in feet and inches:

Kitchen: 9 ft. 5 by 8 ft. 11 by 6 ft. 6.
Scullery: 8 ft. 6 by 4 ft. 6 by 6 ft. 6.
Bedroom: 8 ft. 5 by 5 ft. 10 by 6 ft. 3.
Bedroom: 8 ft. 3 by 8 ft. 4 by 6 ft. 3.

(10.) Northamptonshire.

Brinworth, Pickford and *Floore:* in these villages in the winter 20—30 men were lounging about the streets from want of work. The farmers do not always till sufficiently the corn and turnip lands, and the landlord has found it best to throw all his farms together into 2 or 3. Hence want of employment. Whilst on one side of the wall, the land calls for labour, on the other side the defrauded labourers are casting at it longing glances. Feverishly overworked in summer, and half-starved in winter, it is no wonder if they say in their peculiar dialect, "the parson and gentlefolk seem frit to death at them."

At Floore, instances, in one bedroom of the smallest size, of couples with 4, 5, 6 children; 3 adults with 5 children; a couple with grandfather and 6 children down with scarlet fever, &c.; in two houses with two bedrooms, two families of 8 and 9 adults respectively.

(11.) Wiltshire.

Stratton. 31 houses visited, 8 with only one bedroom. Pentill, in the same parish: a cot let at 1s. 3d. weekly with 4 adults and 4 children, had nothing good about it, except the walls, from the floor of rough-hewn pieces of stones to the roof of worn-out thatch.

(12.) Worcestershire.

House-destruction here not quite so excessive; yet from 1851 to 1861, the number of inhabitants to each house on the average, has risen from 4·2 to 4·6.

Badsey. Many cots and little gardens here. Some of the farmers declare that the cots are "a great nuisance here, because they bring the poor." On the statement of one gentle-

man: "The poor are none the better for them; if you build 500 they will let fast enough, in fact, the more you build, the more they want" (according to him the houses give birth to the inhabitants, who then by a law of Nature press on "the means of housing"). Dr. Hunter remarks: "Now these poor must come from somewhere, and as there is no particular attraction, such as doles, at Badsey, it must be repulsion from some other unfit place, which will send them here. If each could find an allotment near his work, he would not prefer Badsey, where he pays for his scrap of ground twice as much as the farmer pays for his."

The continual emigration to the towns, the continual formation of surplus-population in the country through the concentration of farms, conversion of arable land into pasture, machinery, &c., and the continual eviction of the agricultural population by the destruction of their cottages, go hand in hand. The more empty the district is of men, the greater is its "relative surplus-population," the greater is their pressure on the means of employment, the greater is the absolute excess of the agricultural population over the means for housing it, the greater, therefore, in the villages is the local surplus-population and the most pestilential packing together of human beings. The packing together of knots of men in scattered little villages and small country towns corresponds to the forcible draining of men from the surface of the land. The continuous superseding of the agricultural labourers, in spite of their diminishing number and the increasing mass of their products, gives birth to their pauperism. Their pauperism is ultimately a motive to their eviction and the chief source of their miserable housing which breaks down their last power of resistance, and makes them mere slaves of the landed proprietors and the farmers.[1] Thus the minimum of wages becomes a law of

[1] "The heaven-born employment of the hind gives dignity even to this position. He is not a slave, but a soldier of peace, and deserves his place in married men's quarters to be provided by the landlord, who has claimed a power of enforced labour similar to that the country demands of the soldier. He no more receives market price for his work than does the soldier. Like the soldier he is caught young, ignorant, knowing only his own trade, and his own locality. Early marriage and the operation of the various laws of settlement affect the one as enlistment and the

Nature to them. On the other hand, the land, in spite of its constant "relative surplus-population," is at the same time under-populated. This is seen, not only locally at the points where the efflux of men to towns, mines, railroad-making, &c., is most marked. It is to be seen everywhere, in harvest-time as well as in spring and summer, at those frequently recurring times when English agriculture, so careful and intensive, wants extra hands. There are always too many agricultural labourers for the ordinary, and always too few for the exceptional or temporary needs of the cultivation of the soil[1]. Hence we find in the official documents contradictory complaints from the same places of deficiency and excess of labour simultaneously. The temporary or local want of labour brings about no rise in wages, but a forcing of the women and children into the fields, and exploitation at an age constantly lowered. As soon as the exploitation of the women and children takes place on a larger scale, it becomes in turn a new means of making a surplus-population of the male agricultural labourer and of keeping down his wage. In the east of England thrives a beautiful fruit of this vicious circle—the so-called gang-system, to which I must briefly return here.[2]

Mutiny Act affect the other." (Dr. Hunter, l. c., p. 132.) Sometimes an exceptionally soft-hearted landlord relents at the solitude he has created. "It is a melancholy thing to stand alone in one's country," said Lord Leicester, when complimented on the completion of Hookham. "I look around and not a house is to be seen but mine. I am the giant of Giant Castle, and have eat up all my neighbours."

[1] A similar movement is seen during the last ten years in France; in proportion as capitalist production there takes possession of agriculture, it drives the "surplus" agricultural population into the towns. Here also we find deterioration in the housing and other conditions at the source of the surplus-population. On the special "prolétariat foncier," to which this system of parcelling out the land has given rise, see, among others, the work of Colins, already quoted, and Karl Marx "Der Achtzehnte Brumaire des Louis Bonaparte." 2nd edition. Hamburg, 1869, pp. 56, &c. In 1846, the town population in France was represented by 24·42, the agricultural by 75·58; in 1861, the town by 28·86, the agricultural by 71·4 per cent. During the last 5 years, the diminution of the agricultural percentage of the population has been yet more marked. As early as 1846, Pierre Dupont in his "Ouvriers" sang:

> Mal vêtus, logés dans des trous,
> Sous les combles, dans les décombres,
> Nous vivons avec les hiboux
> Et les larrons, amis des ombres.

[2] "Sixth and last Report of the Children's Employment Commission," published at the end of March, 1867. It deals solely with the agricultural gang-system.

The gang-system obtains almost exclusively in the counties of Lincoln, Huntingdon, Cambridge, Norfolk, Suffolk, and Nottingham, here and there in the neighbouring counties of Northampton, Bedford, and Rutland. Lincolnshire will serve us as an example. A large part of this county is new land, marsh formerly, or even, as in others of the eastern counties just named, won lately from the sea. The steam-engine has worked wonders in the way of drainage. What were once fens and sandbanks, bear now a luxuriant sea of corn and the highest of rents. The same thing holds of the alluvial lands won by human endeavour, as in the island of Axholme and other parishes on the banks of the Trent. In proportion as the new farms arose, not only were no new cottages built: old ones were demolished, and the supply of labour had to come from open villages, miles away, by long roads that wound along the sides of the hills. There alone had the population formerly found shelter from the incessant floods of the winter-time. The labourers that dwell on the farms of 400—1000 acres (they are called "confined labourers") are solely employed on such kinds of agricultural work as is permanent, difficult, and carried on by aid of horses. For every 100 acres there is, on an average, scarcely one cottage. A fen farmer, *e.g.*, gave evidence before the Commission of Inquiry: "I farm 320 acres, all arable land. I have not one cottage on my farm. I have only one labourer on my farm now. I have four horsemen lodging about. We get light work done by gangs."[1] The soil requires much light field labour, such as weeding, hoeing, certain processes of manuring, removing of stones, &c. This is done by the gangs, or organised bands that dwell in the open villages.

The gang consists of 10 to 40 or 50 persons, women, young persons of both sexes (13-18 years of age, although the boys are for the most part eliminated at the age of 13), and children of both sexes (6-13 years of age). At the head is the gang-master, always an ordinary agricultural labourer, generally what is called a bad lot, a scapegrace, unsteady, drunken, but with a dash of enterprise and *savoir faire*. He is the recruiting-sergeant for the gang, which works under him, not under

[1] "Child. Emp. Comm., VI. Report." Evidence 173, p. 37.

the farmer. He generally arranges with the latter for piece-work, and his income, which on the average is not very much above that of an ordinary agricultural labourer,[1] depends almost entirely upon the dexterity with which he manages to extract within the shortest time the greatest possible amount of labour from his gang. The farmers have discovered that women work steadily only under the direction of men, but that women and children, once set going, impetuously spend their life-force —as Fourier knew—while the adult male labourer is shrewd enough to economise his as much as he can. The gang-master goes from one farm to another, and thus employs his gang from 6 to 8 months in the year. Employment by him is, therefore, much more lucrative and more certain for the labouring families, than employment by the individual farmer, who only employs children occasionally. This circumstance so completely rivets his influence in the open villages that children are generally only to be hired through his instrumentality. The lending out of these individually, independently of the gang, is his second trade.

The "drawbacks" of the system are the over-work of the children and young persons, the enormous marches that they make daily to and from the farms, 5, 6, and sometimes 7 miles distant, finally, the demoralisation of the gang. Although the gangmaster, who, in some districts is called "the driver," is armed with a long stick, he uses it but seldom, and complaints of brutal treatment are exceptional. He is a democratic emperor, or a kind of Pied Piper of Hamelin. He must therefore be popular with his subjects, and he binds them to himself by the charms of the gipsy life under his direction. Coarse freedom, a noisy jollity, and obscenest impudence give attractions to the gang. Generally the gangmaster pays up in a public house; then he returns home at the head of the procession reeling drunk, propped up right and left by a stalwart virago, while children and young persons bring up the rear, boisterous, and singing chaffing and bawdy songs. On the return journey what Fourier calls "phanerogamie," is the order of the day.

[1] Some gangmasters, however, have worked themselves up to the position of farmers of 500 acres, or proprietors of whole rows of houses.

The getting with child of girls of 13 and 14 by their male companions of the same age, is common. The open villages which supply the contingent of the gang, become Sodoms and Gomorrahs,[1] and have twice as high a rate of illegitimate births as the rest of the kingdom. The moral character of girls bred in these schools, when married women, was shown above. Their children, when opium does not give them the finishing stroke, are born recruits of the gang.

The gang in its classical form just described, is called the public, common, or tramping gang. For there are also private gangs. These are made up in the same way as the common gang, but count fewer members, and work, not under a gangmaster, but under some old farm servant, whom the farmer does not know how to employ in any better way. The gipsy fun has vanished here, but according to all witnesses, the payment and treatment of the children is worse.

The gang-system, which during the last years has steadily increased,[2] clearly does not exist for the sake of the gangmaster. It exists for the enrichment of the large farmers,[3] and indirectly of the landlords.[4] For the farmer there is no more ingenious method of keeping his labourers well below the normal level, and yet of always having an extra hand ready for extra work, of extracting the greatest possible amount of labour with the least possible amount of money,[5] and of making adult male labour "redundant." From the exposition already made, it

[1] "Half the girls of Ludford have been ruined by going out" (in gangs). l. c. p. 6, § 32.

[2] "They (gangs) have greatly increased of late years. In some places they are said to have been introduced at comparatively late dates; in others where gangs . . . . have been known for many years . . . . more and younger children are employed in them." (l. c., p. 79, § 174.)

[3] "Small farmers never employ gangs." "It is not on poor land, but on land which affords rent of from 40 to 50 shillings, that women and children are employed in the greatest numbers." (l. c., pp. 17, 14.)

[4] To one of these gentlemen the taste of his rent was so grateful that he indignantly declared to the Commission of Inquiry that the whole hubbub was only due to the name of the system. If instead of "gang" it were called "the Agricultural Juvenile Industrial Self-supporting Association," everything would be all right.

[5] "Gang work is cheaper than other work; that is why they are employed," says a former gangmaster (l. c., p. 17, § 14). "The gang-system is decidedly the cheapest for the farmer, and decidedly the worst for the children," says a farmer. (l. c., p. 16, § 3.)

will be understood why, on the one hand, a greater or less lack of employment for the agricultural labourer is admitted, while on the other, the gang-system is at the same time declared "necessary" on account of the want of adult male labour and its migration to the towns.[1] The cleanly weeded land, and the uncleanly human weeds, of Lincolnshire, are pole and counter-pole of capitalistic production.[2]

[1] "Undoubtedly much of the work now done by children in gangs used to be done by men and women. More men are out of work now where children and women are employed than formerly." (l. c., p. 43, n. 202.) On the other hand, "the labour question in some agricultural districts, particularly the arable, is becoming so serious in consequence of emigration, and the facility afforded by railways for getting to large towns that I (the "I" is the steward of a great lord) think the services of children are most indispensable." (l. c., p. 80, n. 180.) For the "labour question" in English agricultural districts, differently from the rest of the civilised world, means the landlords' and farmers' question viz., how it is possible, despite an always increasing exodus of the agricultural folk, to keep up a sufficient relative surplus-population in the country, and by means of it keep the wages of the agricultural labourer at a minimum?

[2] The "Public Health Report," where in dealing with the subject of children's mortality, the gang-system is treated in passing, remains unknown to the press, and, therefore, to the English public. On the other hand, the last report of the "Child. Empl. Comm." afforded the press sensational copy always welcome. Whilst the Liberal press asked how the fine gentlemen and ladies, and the well-paid clergy of the State Church, with whom Lincolnshire swarms, could allow such a system to arise on their estates, under their very eyes, they who send out expressly missions to the Antipodes, "for the improvement of the morals of South Sea Islanders"—the more refined press confined itself to reflections on the coarse degradation of the agricultural population who are capable of selling their children into such slavery! Under the accursed conditions to which these "delicate" people condemn the agricultural labourer, it would not be surprising if he ate his own children. What is really wonderful is the healthy integrity of character, he has, in great part, retained. The official reports prove that the parents, even in the gang districts, loathe the gang-system. "There is much in the evidence that show that the parents of the children would, in many instances, be glad to be aided by the requirements of a legal obligation, to resist the pressure and the temptations to which they are often subject. They are liable to be urged, at times by the parish officers, at times by employers, under threats of being themselves discharged, to be taken to work at an age when . . . school attendance . . . would be manifestly to their greater advantage. . . . . All that time and strength wasted; all the suffering from extra and unprofitable fatigue produced to the labourer and to his children; every instance in which the parent may have traced the moral ruin of his child to the undermining of delicacy by the overcrowding of cottages, or to the contaminating influences of the public gang, must have been so many incentives to feelings in the minds of the labouring poor which can be well understood, and which it would be needless to particularise. They must be conscious that much bodily and mental pain has thus been inflicted upon them from causes for which they were in no way answerable; to which, had it been in their power, they would have in no way consented; and against which they were powerless to struggle." (l. c., p. xx., § 82, and xxiii., n. 96.)

(f.) Ireland.

In concluding this section, we must travel for a moment to Ireland. First, the main facts of the case.

The population of Ireland had, in 1841, reached 8,222,664; in 1851, it had dwindled to 6,623,985; in 1861, to 5,850,309; in 1866, to $5\frac{1}{2}$ millions, nearly to its level in 1801. The diminution began with the famine year, 1846, so that Ireland, in less than twenty years, lost more than $\frac{5}{16}$ths of its people.[1] Its total emigration from May, 1851, to July, 1865, numbered 1,591,487: the emigration during the years 1861-1865 was more than half-a-million. The number of inhabited houses fell, from 1851-1861, by 52,990. From 1851-1861, the number of holdings of 15 to 30 acres increased 61,000, that of holdings over 30 acres, 109,000, whilst the total number of all farms fell 120,000, a fall, therefore, solely due to the suppression of farms under 15 acres—*i.e.*, to their centralisation.

Table A.

LIVE STOCK.

Year.	Horses.		Cattle.		
	Total Number.	Decrease.	Total Number.	Decrease.	Increase.
1860	619,811		3,606,374		
1861	614,232	5,993	3,471,688	138,316	
1862	602,894	11,338	3 254,890	216.798	
1863	579,978	22,916	3,144,231	110,695	
1864	562,158	17,820	3,262,294		118,063
1865	547,867	14,291	3,493,414		231,120

[1] Population of Ireland, 1801, 5,319,867 persons; 1811, 6,084,996; 1821, 6,869,544; 1831, 7,828, 347; 1841, 8,222,664.

Year.	Sheep.			Pigs.		
	Total Number.	Decrease.	Increase.	Total Number.	Decrease.	Increase.
1860	3,542,080			1,271,072		
1861	3,556,050		13,970	1,102,042	169,030	
1862	3,456,132	99,918		1,154,324		52,282
1863	3,308,204	147,982		1,067,458	86,866	
1864	3,366,941		58,737	1,058,480	8,978	
1865	3,688,742		321,801	1,299,893		241,413

The decrease of the population was naturally accompanied by a decrease in the mass of products. For our purpose, it suffices to consider the 5 years from 1861-1865 during which over half-a-million emigrated, and the absolute number of people sank by more than $\frac{1}{3}$ of a million.

From the above table it results :—

Horses.	Cattle.	Sheep.	Pigs.
Absolute Decrease.	Absolute Decrease.	Absolute Increase.	Absolute Increase.
72,358	116,626	146,608	28,819 [1]

Let us now turn to agriculture, which yields the means of subsistence for cattle and for men. In the following table is calculated the decrease or increase for each separate year, as compared with its immediate predecessor. The Cereal Crops

[1] The result would be found yet more unfavourable if we went further back. Thus: Sheep in 1865, 3,688,742, but in 1856, 3,694,294. Pigs in 1865, 1,299,893, but in 1858, 1,409,883.

include wheat, oats, barley, rye, beans, and peas; the Green Crops, potatoes, turnips, mangolds, beet-root, cabbages, carrots, parsnips, vetches, &c.

Table B.

INCREASE OR DECREASE IN THE AREA UNDER CROPS AND GRASS IN ACREAGE.

Year.	Cereal Crops.	Green Crops.		Grass and Clover.		Flax.		Total Cultivated Land.	
	Decrease.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1861	15,701	36,974		47,969			19,271	81,873	
1862	72,734	74,785			6,623		2,055	138,841	
1863	144,719	19,358			7,724		63,922	92,431	
1864	122,437	2,317			47,486		87,761		10,493
1865	72,450		25,241		68,970	50,159		28,218	
1861-65	428,041	107,984			82,834		122,850	330,860	

In the year 1865, 127,470 additional acres came under the heading "grass land," chiefly because the area under the heading of "bog and waste unoccupied," decreased by 101,543 acres. If we compare 1865 with 1864, there is a decrease in cereals of 246,667 qrs., of which 48,999 were wheat, 160,605 oats, 29,892 barley, &c.: the decrease in potatoes was 446,398 tons, although the area of their cultivation increased in 1865.

Table C.

INCREASE OR DECREASE IN THE AREA UNDER CULTIVATION, PRODUCT PER ACRE, AND TOTAL PRODUCT OF 1865 COMPARED WITH 1864.

Product.	Acres of Cultivated Land.		Increase or Decrease, 1865.		Product per Acre.		Increase or Decrease, 1865.		Total Product.			
	1864.	1865.			1864.	1865.			1864.	1865.	Increase or Decrease, 1865.	
									Qrs.	Qrs.		
Wheat, ...	276,483	266,989		9,494	Wheat, cwt., 13·3	13·0		0·3	875,782 ,,	826,783 ,,		48,999 qs.
Oats, ...	1,814,886	1,745,228		69,658	Oats, ,, 12·1	12·3	0·2		7,826,332 ,,	7,659,727 ,,		166,605 ,,
Barley, ...	172,700	177,102	4,402		Barley, ,, 15·9	14·9		1·0	761,909 ,,	732,017 ,,		29,892 ,,
Bere, ... Rye, ...	8,894	10,091	1,197		Bere, ,, 16·4 Rye, ,, 8·5	14·8 10·4	1·9	1·6	15,160 ,, 12,680 ,,	13,989 ,, 18,364 ,,	5,684 qs.	1,171 ,,
Potatoes, ...	1,039,724	1,066,260	26,536		Potatoes, tons, 4·1	3·6		0·5	4,312,388 ts.	3,865,990 ts.		446,398 ts.
Turnips, ...	337,355	334,212		3,143	Turnips, ,, 10·3	9·9		0·4	3,467,659 ,,	3,301,683 ,,		165,976 ,,
Mangold-wurzel	14,673	14,839	316		Mangold-wurzel, ,, 10·5	13·3	2·8		147,284 ,,	191,937 ,,	44,653 ts.	
Cabbages, ...	31,821	33,622	1,801		Cabbages, ,, 9·3	10·4	1·1		297,375 ,,	350,252 ,,	52,877 ,,	
Flax, ...	301,693	251,433		50,260	Flax, st. (14 lb) 34·2	25·2		9·0	64,506 st.	39,561 st.		24,945 st.
Hay, ...	1,609,569	1,678,493	68,924		Hay, tons, 1·6	1·8	0·2		2,607,153 ts.	3,068,707 ts.	461,554 ,,	

[1] The data of the text are put together from the materials of the "Agricultural Statistics, Ireland, General Abstracts, Dublin," for the years 1860, *et seq.*, and "Agricultural Statistics, Ireland, Tables showing the estimated average produce, &c., Dublin, 1866." These statistics are official, and laid before Parliament annually. [Note to 2nd edition. The official statistics for the year 1872 show, as compared with 1871, a decrease in area under cultivation of 134,915 acres. An increase occurred in the cultivation of green crops, turnips, mangold-wurzel, and the like; a decrease in the area under cultivation for wheat of 16,000 acres; oats, 14,000; barley and rye, 4,000; potatoes, 66,632; flax, 34,667; grass, clover, vetches, rape-seed, 30,000. The soil under cultivation for wheat shows for the last 5 years the following stages of decrease:—1868, 285,000 acres; 1869, 280,000; 1870, 259,000: 1871, 244.000; 1872, 228,000. For 1872 we find, in round numbers, an increase of 2,600 horses, 80,000 horned cattle, 68,609 sheep, and a decrease of 236,000 pigs.]

From the movement of population and the agricultural produce of Ireland, we pass to the movement in the purse of its landlords, larger farmers, and industrial capitalists. It is reflected in the rise and fall of the Income-tax. It may be remembered that Schedule D (profits with the exception of those of farmers), includes also the so-called "professional" profits—*i.e.*, the incomes of lawyers, doctors, &c.; and the Schedules C. and E., in which no special details are given, include the incomes of employés, officers, State sinecurists, State fundholders, &c.

Table D.

THE INCOME-TAX ON THE SUBJOINED INCOMES IN POUNDS STERLING.

	1860.	1861.	1862.	1863.	1864.	1865.
SCHEDULE A.						
Rent of Land	13,893,829	13,003,554	13,398,938	13,494,091	13,470,700	13,801,616
SCHEDULE B.						
Farmers' Profits	2,765,387	2,773,644	2,937,899	2,938,823	2,930,874	2,946,072
SCHEDULE D.						
Industrial, &c., Profits.....	4,891,652	4,836,203	4,858,800	4,846,497	4,546,147	4,850,199
Total Schedules A. to E.	22,962,885	22,998,394	23,597,574	23,658,631	23,236,298	23,930,340 [1]

Under Schedule D. the average annual increase of income from 1853-1864 was only 0·93; whilst, in the same period, in Great Britain, it was 4·58. The following table shows the distribution of the profits (with the exception of those of farmers) for the years 1864 and 1865:—

[1] Tenth Report of the Commissioners of Inland Revenue. Lond. 1866.

Table E.

SCHEDULE D. INCOME FROM PROFITS (OVER £60) IN IRELAND.

	1864. £.		1865. £.	
Total yearly income of.....	4,368,610 divided among 17,467 persons.		4,669,979 divided among 18,081 persons.	
Yearly income over £60 and under £100	238,626 ,,	5,015 ,,	222,575 ,,	4,703 ,,
Of the yearly total income.....	1,979,066 ,,	11,321 ,,	2,028,471 ,,	12,184 ,,
Remainder of the total yearly income	2,150,818 ,,	1,131 ,,	2,418,933 ,,	1,194 ,,
Of these.....	1,083,906 ,,	910 ,,	1,097,937 ,,	1,044 ,,
	1,066,912 ,,	121 ,,	1,320,996 ,,	186 ,,
	430,535 ,,	105 ,,	584,458 ,,	122 ,,
	646,377 ,,	26 ,,	736,448 ,,	28 ,,
	262,610 ,,	3 ,,	264,528 ,,	3 ,, [1]

England, a country with fully developed capitalist production, and pre-eminently industrial, would have bled to death with such a drain of population as Ireland has suffered. But Ireland is at present only an agricultural district of England, marked off by a wide channel from the country to which it yields corn, wool, cattle, industrial and military recruits.

The depopulation of Ireland has thrown much of the land out of cultivation, has greatly diminished the produce of the soil,[2] and, in spite of the greater area devoted to cattle breeding, has brought about, in some of its branches, an absolute diminution, in others, an advance scarcely worthy of mention, and constantly interrupted by retrogressions. Nevertheless,

[1] The total yearly income under Schedule D. is different in this table from that which appears in the preceding ones, because of certain deductions allowed by law.

[2] If the product also diminishes relatively per acre, it must not be forgotten that for a century and a half England has indirectly exported the soil of Ireland, without as much as allowing its cultivators the means for making up the constituents of the soil that had been exhausted.

with the fall in numbers of the population, rents and farmers' profits rose, although the latter not as steadily as the former. The reason of this is easily comprehensible. On the one hand, with the throwing of small holdings into large ones, and the change of arable into pasture land, a larger part of the whole produce was transformed into surplus produce. The surplus produce increased, although the total produce, of which it formed a fraction, decreased. On the other hand, the money-value of this surplus produce increased yet more rapidly than its mass, in consequence of the rise in the English market-price of meat, wool, &c., during the last 20, and especially during the last 10, years.

The scattered means of production that serve the producers themselves as means of employment and of subsistence, without expanding their own value by the incorporation of the labour of others, are no more capital than a product consumed by its own producer is a commodity. If, with the mass of the population, that of the means of production employed in agriculture also diminished, the mass of the capital employed in agriculture increased, because a part of the means of production that were formerly scattered, was concentrated and turned into capital.

The total capital of Ireland outside agriculture, employed in industry and trade, accumulated during the last two decades slowly, and with great and constantly recurring fluctuations; so much the more rapidly did the concentration of its individual constituents develop. And, however small its absolute increase, in proportion to the dwindling population it had increased largely.

Here, then, under our own eyes and on a large scale, a process is revealed, than which nothing more excellent could be wished for by orthodox economy for the support of its dogma: that misery springs from absolute surplus-population, and that equilibrium is re-established by depopulation. This is a far more important experiment than was the plague in the middle of the 14th century so belauded of Malthusians. Note further: If only the naïveté of the schoolmaster could apply, to the conditions of production and population of the nineteenth century. the standard of the 14th, this naïveté, into the bargain,

overlooked the fact that whilst, after the plague and the decimation that accompanied it, followed on this side of the channel, in England, enfranchisement and enrichment of the agricultural population, on that side, in France, followed greater servitude and more misery.[1]

The Irish famine of 1846 killed more than 1,000,000 people, but it killed poor devils only. To the wealth of the country it did not the slightest damage. The exodus of the next 20 years, an exodus still constantly increasing, did not, as, *e.g.*, the thirty years' war, decimate, along with the human beings, their means of production. Irish genius discovered an altogether new way of spiriting a poor people thousands of miles away from the scene of its misery. The exiles transplanted to the United States, send home sums of money every year as travelling expenses for those left behind. Every troop that emigrates one year, draws another after it the next. Thus, instead of costing Ireland anything, emigration forms one of the most lucrative branches of its export trade. Finally, it is a systematic process, which does not simply make a passing gap in the population, but sucks out of it every year more people than are replaced by the births, so that the absolute level of the population falls year by year.[2]

What were the consequences for the Irish labourers left behind and freed from the surplus-population? That the relative surplus-population is to-day as great as before 1846; that wages are just as low, that the oppression of the labourers has increased, that misery is forcing the country towards a new crisis. The facts are simple. The revolution in agriculture has kept pace with emigration. The production of relative surplus-population has more than kept pace with the absolute depopulation. A glance at table C shows that the change of arable to pasture land must work yet more acutely in Ireland

[1] As Ireland is regarded as the promised land of the "principle of population," A. Sadler, before the publication of his work on population, issued his famous book, "Ireland, its evils and their remedies. 2nd edition, London, 1829." Here, by comparison of the statistics of the individual provinces, and of the individual counties in each province, he proves that the misery there is not, as Malthus would have it, in proportion to the number of the population, but in inverse ratio to this.

[2] Between 1851 and 1874, the total number of emigrants amounted to 2,325,922.

than in England. In England the cultivation of green crops increases with the breeding of cattle; in Ireland, it decreases. Whilst large number of acres, that were formerly tilled, lie idle or are turned permanently into grass-land, a great part of the waste land and peat bogs that were unused formerly, become of service for the extension of cattle-breeding. The smaller and medium farmers—I reckon among these all who do not cultivate more than 100 acres—still make up about $\frac{8}{10}$ths of the whole number.[1] They are, one after the other, and with a degree of force unknown before, crushed by the competition of an agriculture managed by capital, and therefore they continually furnish new recruits to the class of wage-labourers. The one great industry of Ireland, linen-manufacture, requires relatively few adult men and only employs altogether, in spite of its expansion since the price of cotton rose in 1861-1866, a comparatively insignificant part of the population. Like all other great modern industries, it constantly produces, by incessant fluctuations, a relative surplus-population within its own sphere, even with an absolute increase in the mass of human beings absorbed by it. The misery of the agricultural population forms the pedestal for gigantic shirt-factories, whose armies of labourers are, for the most part, scattered over the country. Here, we encounter again the system described above of domestic industry, which in under-payment and overwork, possesses its own systematic means for creating supernumerary labourers. Finally, although the depopulation has not such destructive consequences as would result in a country with fully developed capitalistic production, it does not go on without constant reaction upon the home-market. The gap which emigration causes here, limits not only the local demand for labour, but also the incomes of small shopkeepers, artisans, tradespeople generally. Hence the diminution in incomes between £60 and £100 in table E.

A clear statement of the condition of the agricultural labourers in Ireland is to be found in the Reports of the Irish

[1] According to a table in Murphy's "Ireland industrial, political and social," 1870, 94·6 per cent. of the holdings do not reach 100 acres, 5·4 exceed 100 acres.

Poor Law Inspectors (1870).[1] Officials of a government which is maintained only by bayonets and by a state of siege, now open, now disguised, they have to observe all the precautions of language that their colleagues in England disdain. In spite of this, however, they do not let their government cradle itself in illusions. According to them the rate of wages in the country, still very low, has within the last 20 years risen 50-60 per cent., and stands now, on the average, at 6s. to 9s. per week. But behind this apparent rise, is hidden an actual fall in wages, for it does not correspond at all to the rise in price of the necessary means of subsistence that has taken place in the meantime. For proof, the following extract from the official accounts of an Irish workhouse.

AVERAGE WEEKLY COST PER HEAD.

Year ended.	Provisions and Necessaries.	Clothing.	Total.
29th Sept., 1849.	1s. 3¼d.	3d.	1s. 6¼d.
„ 1869.	2s. 7¼d.	6d.	3s. 1¼d.

The price of the necessary means of subsistence is therefore fully twice, and that of clothing exactly twice, as much as they were 20 years before.

Even apart from this disproportion, the mere comparison of the rate of wages expressed in gold would give a result far from accurate. Before the famine, the great mass of agricultural wages were paid in kind, only the smallest part in money; to-day, payment in money is the rule. From this it follows that, whatever the amount of the real wage, its money rate must rise. "Previous to the famine, the labourer enjoyed his cabin . . . . with a rood, or half-acre or acre of

[1] "Reports from the Poor Law Inspectors on the wages of Agricultural Labourers in Dublin, 1870." See also "Agricultural Labourers (Ireland) Return, etc., 8 March 1862, London 1862."

land, and facilities for . . . a crop of potatoes. He was able to rear his pig and keep fowl. . . But they now have to buy bread, and they have no refuse upon which they can feed a pig or fowl, and they have consequently no benefit from the sale of a pig, fowl, or eggs."[1] In fact, formerly, the agricultural labourers were but the smallest of the small farmers, and formed for the most part a kind of rear-guard of the medium and large farms on which they found employment. Only since the catastrophe of 1846 have they begun to form a fraction of the class of purely wage-labourers, a special class, connected with its wage-masters only by monetary relations.

We know what were the conditions of their dwellings in 1846. Since then they have grown yet worse. A part of the agricultural labourers, which, however, grows less day by day, dwells still on the holdings of the farmers in over-crowded huts, whose hideousness far surpasses the worst that the English agricultural labourers offered us in this way. And this holds generally with the exception of certain tracts of Ulster; in the south, in the counties of Cork, Limerick, Kilkenny, &c.; in the east, in Wicklow, Wexford, &c.; in the centre of Ireland, in King's and Queen's County, Dublin, &c.; in the west, in Sligo, Roscommon, Mayo, Galway, &c. "The agricultural labourers' huts," an inspector cries out, "are a disgrace to the Christianity and to the civilisation of this country."[2] In order to increase the attractions of these holes for the labourers, the pieces of land belonging thereto from time immemorial, are systematically confiscated. "The mere sense that they exist subject to this species of ban, on the part of the landlords and their agents, has . . . given birth in the minds of the labourers to corresponding sentiments of antagonism and dissatisfaction towards those by whom they are thus led to regard themselves ar being treated as . . . a proscribed race."[3]

The first act of the agricultural revolution was to sweep away the huts situated on the field of labour. This was done on the largest scale, and as if in obedience to a command from on high. Thus many labourers were compelled to seek shelter in villages and towns. There they were thrown like refuse

[1] l. c. pp. 29, 1. [2] l. c. p. 12. [3] l. c. p. 12.

into garrets, holes, cellars and corners, in the worst back slums. Thousands of Irish families, who according to the testimony of the English, eaten up as these are with national prejudice, are notable for their rare attachment to the domestic hearth, for their gaiety and the purity of their home-life, found themselves suddenly transplanted into hotbeds of vice. The men are now obliged to seek work of the neighbouring farmers and are only hired by the day, and therefore under the most precarious form of wage. Hence "they sometimes have long distances to go to and from work, often get wet, and suffer much hardship, not unfrequently ending in sickness, disease and want." [1]

"The towns have had to receive from year to year what was deemed to be the surplus-labour of the rural division;" [2] and then people still wonder "there is still a surplus of labour in the towns and villages, and either a scarcity or a threatened scarcity in some of the country divisions." [3] The truth is that this want only becomes perceptible "in harvest-time, or during spring, or at such times as agricultural operations are carried on with activity; at other periods of the year many hands are idle;" [4] that "from the digging out of the main crop of potatoes in October until the early spring following . . . there is no employment for them;" [5] and further, that during the active times they "are subject to broken days and to all kinds of interruptions." [6]

These results of the agricultural revolution—*i.e.*, the change of arable into pasture land, the use of machinery, the most rigorous economy of labour, &c., are still further aggravated by the model landlords, who, instead of spending their rents in other countries, condescend to live in Ireland on their demesnes. In order that the law of supply and demand may not be broken, these gentlemen draw their "labour-supply . . . chiefly from their small tenants, who are obliged to attend when required to do the landlord's work, at rates of wages, in many instances, considerably under the current rates paid to ordinary labourers, and without regard to the inconvenience or loss to the tenant

[1] l. c. p. 25. l. c. p. 27.
[2] l. c. p. 25.
[3] l. c. p. 1.
[4] l. c. pp. 31, 32.
[5] l. c. p. 25.

of being obliged to neglect his own business at critical periods of sowing or reaping."[1]

The uncertainty and irregularity of employment, the constant return and long duration of gluts of labour, all these symptoms of a relative surplus-population, figure therefore in the reports of the Poor Law administration, as so many hardships of the agricultural proletariat. It will be remembered that we met, in the English agricultural proletariat, with a similar spectacle. But the difference is that in England, an industrial country, the industrial reserve recruits itself from the country districts, whilst in Ireland, an agricultural country, the agricultural reserve recruits itself from the towns, the cities of refuge of the expelled agricultural labourers. In the former, the supernumeraries of agriculture are transformed into factory-operatives; in the latter, those forced into the towns, whilst at the same time they press on the wages in towns, remain agricultural labourers, and are constantly sent back to the country districts in search of work.

The official inspectors sum up the material condition of the agricultural labourer as follows: "Though living with the strictest frugality, his own wages are barely sufficient to provide food for an ordinary family and pay his rent, and he depends upon other sources for the means of clothing himself, his wife, and children. . . The atmosphere of these cabins, combined with the other privations they are subjected to, has made this class particularly susceptible to low fever and pulmonary consumption."[2] After this, it is no wonder that, according to the unanimous testimony of the inspectors, a sombre discontent runs through the ranks of this class, that they long for the return of the past, loathe the present, despair of the future, give themselves up "to the evil influence of agitators," and have only one fixed idea, to emigrate to America. This is the land of Cockaigne, into which the great Malthusian panacea, depopulation, has transformed green Erin.

What a happy life the Irish factory operative leads, one example will show: "On my recent visit to the North of Ireland," says the English Factory Inspector, Robert Baker,

[1] l. c. p. 30. [2] l. c. pp. 21, 13.

"I met with the following evidence of effort in an Irish skilled workman to afford education to his children; and I give his evidence verbatim, as I took it from his mouth. That he was a skilled factory hand, may be understood when I say that he was employed on goods for the Manchester market. 'Johnson. —I am a beetler and work from 6 in the morning till 11 at night, from Monday to Friday. Saturday we leave off at 6 p.m., and get three hours of it (for meals and rest). I have five children in all. For this work I get 10s. 6d. a week; my wife works here also, and gets 5s. a week. The oldest girl who is 12, minds the house. She is also cook, and all the servant we have. She gets the young ones ready for school. A girl going past the house wakes me at half past five in the morning. My wife gets up and goes along with me. We get nothing (to eat) before we come to work. The child of 12 takes care of the little children all the day, and we get nothing till breakfast at eight. At eight we go home. We get tea once a week; at other times we get stirabout, sometimes of oatmeal, sometimes of Indian meal, as we are able to get it. In the winter we get a little sugar and water to our Indian meal. In the summer we get a few potatoes, planting a small patch ourselves; and when they are done we get back to stirabout. Sometimes we get a little milk as it may be. So we go on from day to day, Sunday and week day, always the same the year round. I am always very much tired when I have done at night. We may see a bit of flesh meat sometimes, but very seldom. Three of our children attend school, for whom we pay 1d. a week a head. Our rent is 9d a week. Peat for firing costs 1s. 6d. a fortnight at the very lowest."[1] Such are Irish wages, such is Irish life!

In fact the misery of Ireland is again the topic of the day in England. At the end of 1866 and the beginning of 1867, one of the Irish land magnates, Lord Dufferin, set about its solution in the "Times." "Wie menschlich von solch grossem Herrn!"

From Table E. we saw that, during 1864, of £4,368,610 of total profits, three surplus-value makers pocketed only £262,610; that in 1865, however, out of £4,669,979 total

[1] Rept. of Insp. of Fact. 31st Oct., 1866, p. 96.

profits, the same three virtuosi of "abstinence" pocketed £274,448; in 1864, 26 surplus-value makers reached to £646,377; in 1865, 28 surplus-value makers reached to £736,448; in 1864, 121 surplus-value makers, £1,066,912; in 1865, 186 surplus-value makers, £1,320,996; in 1864, 1131 surplus-value makers £2,150,818, nearly half of the total annual profit; in 1865, 1194 surplus-value makers, £2,418,933, more than half of the total annual profit. But the lion's share, which an inconceivably small number of land magnates in England, Scotland and Ireland swallow up of the yearly national rental, is so monstrous that the wisdom of the English state does not think fit to afford the same statistical materials about the distribution of rents as about the distribution of profits. Lord Dufferin is one of those land magnates. That rent-rolls and profits can ever be "excessive," or that their plethora is in any way connected with plethora of the people's misery is, of course, an idea as "disreputable" as "unsound." He keeps to facts. The fact is that, as the Irish population diminishes, the Irish rent-rolls swell; that depopulation benefits the landlords, therefore also benefits the soil, and, therefore, the people, that mere accessory of the soil. He declares, therefore, that Ireland is still over-populated, and the stream of emigration still flows too lazily. To be perfectly happy, Ireland must get rid of at least one-third of a million of labouring men. Let no man imagine that this lord, poetic into the bargain, is a physician of the school of Sangrado, who as often as he did not find his patient better, ordered phlebotomy and again phlebotomy, until the patient lost his sickness at the same time as his blood. Lord Dufferin demands a new blood-letting of one-third of a million only, instead of about two millions; in fact, without the getting rid of these, the millennium in Erin is not to be. The proof is easily given.

NUMBER AND EXTENT OF FARMS IN IRELAND IN 1864.

(1) Farms not over 1 acre.		(2) Farms over 1, not over 5 acres.		(3) Farms over 5, not over 15 acres.		(4) Farms over 15, not over 30 acres.	
No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.
48,653	25,394	82,037	288,916	176,368	1,836,310	136,578	3,051,343

(5) Farms over 30, not over 50 acres.		(6) Farms over 50, not over 100 acres.		(7) Farms over 100 acres.		(8) Total area.
No.	Acres.	No.	Acres.	No.	Acres.	Acres.
71,961	2,906,274	54,247	3,983,880	31,927	8,227,807	26,319,924 [1]

Centralisation has from 1851 to 1861 destroyed principally farms of the first three categories, under 1 and not over 15 acres. These above all must disappear. This gives 307,058 "supernumerary" farmers, and reckoning the families the low average of 4 persons, 1,228,232 persons. On the extravagant supposition that, after the agricultural revolution is complete, one-fourth of these are again absorbable, there remain for emigration 921,174 persons. Categories 4, 5, 6, of over 15 and not over 100 acres, are, as was known long since in England, too small for capitalistic cultivation of corn, and for sheep-breeding are almost vanishing quantities. On the same supposition as before, therefore, there are further 788,761 persons to emigrate; total, 1,709,532. And as l'appétit vient en mangeant, Rent-roll's eyes will soon discover that Ireland, with $3\frac{1}{2}$ millions, is still always miserable, and miserable because she is over-populated. Therefore her depopulation must go yet further, that thus she may fulfil her true destiny, that of an English sheep walk and cattle-pasture.[2]

[1] The total area includes also peat, bogs, and waste land.

[2] How the famine and its consequences have been deliberately made the most of, both by the individual landlords and by the English legislature, to forcibly carry out the agricultural revolution and to thin the population of Ireland down to the proportion satisfactory to the landlords, I shall show more fully in Vol III. of this work, in the section on landed property. There also I return to the condition of the small farmers and the agricultural labourers. At present, only one quotation. Nassau W. Senior says, with other things, in his posthumous work, "Journals, Conversations and Essays, relating to Ireland." 2 vols. London 1868; Vol. II., p. 282. "Well," said Dr. G., "we have got our Poor Law and it is a great instrument for giving the victory to the landlords. Another, and a still more powerful instrument is emigration . . . No friend to Ireland can wish the war to be prolonged [between the landlords and the small Celtic farmers]—still less, that it should end by the victory of the tenants. The sooner it is over—the sooner Ireland becomes a grazing country, with the comparatively thin population which a grazing country requires, the better for all classes." The English Corn Laws of 1815 secured Ireland the monopoly of the free importation of corn into Great Britain. They favoured artifically, therefore, the cultivation of corn. With the abolition of the Corn Laws in 1846, this monopoly was

Like all good things in this bad world, this profitable method has its drawbacks. With the accumulation of rents in Ireland, the accumulation of the Irish in America keeps pace. The Irishman, banished by sheep and ox, reappears on the other side of the ocean as a Fenian, and face to face with the old queen of the seas rises, threatening and more threatening, the young giant Republic:

> Acerba fata Romanos agunt
> Scelusque fraternæ necis.

suddenly removed. Apart from all other circumstances, this event alone was sufficient to give a great impulse to the turning of Irish arable into pasture land, to the concentration of farms, and to the eviction of small cultivators. After the fruitfulness of the Irish soil had been praised from 1815 to 1846, and proclaimed loudly as by Nature herself destined for the cultivation of wheat, English agronomists, economists, politicians, discover suddenly that it is good for nothing but to produce forage. M. Léonce de Lavergne has hastened to repeat this on the other side of the Channel. It takes a "serious" man, à la Lavergne, to be caught by such childishness.

PART VIII.

THE SO-CALLED PRIMITIVE ACCUMULATION.

CHAPTER XXVI.

THE SECRET OF PRIMITIVE ACCUMULATION.

WE have seen how money is changed into capital; how through capital surplus-value is made, and from surplus-value more capital. But the accumulation of capital presupposes surplus-value; surplus-value presupposes capitalistic production; capitalistic production presupposes the pre-existence of considerable masses of capital and of labour-power in the hands of producers of commodities. The whole movement, therefore, seems to turn in a vicious circle, out of which we can only get by supposing a primitive accumulation (previous accumulation of Adam Smith) preceding capitalistic accumulation; an accumulation not the result of the capitalist mode of production, but its starting point.

This primitive accumulation plays in Political Economy about the same part as original sin in theology. Adam bit the apple, and thereupon sin fell on the human race. Its origin is supposed to be explained when it is told as an anecdote of the past. In times long gone by there were two sorts of people; one, the diligent, intelligent, and, above all, frugal élite; the other, lazy rascals, spending their substance, and more, in riotous living. The legend of theological original sin tells us certainly how man came to be condemned to eat his bread in the sweat of his brow; but the history of economic original sin reveals to us that there are people to whom this is by no means

essential. Never mind! Thus it came to pass that the former sort accumulated wealth, and the latter sort had at last nothing to sell except their own skins. And from this original sin dates the poverty of the great majority that, despite all its labour, has up to now nothing to sell but itself, and the wealth of the few that increases constantly although they have long ceased to work. Such insipid childishness is every day preached to us in the defence of property. M. Thiers, *e.g.*, had the assurance to repeat it with all the solemnity of a statesman, to the French people, once so *spirituel*. But as soon as the question of property crops up, it becomes a sacred duty to proclaim the intellectual food of the infant as the one thing fit for all ages and for all stages of development. In actual history it is notorious that conquest, enslavement, robbery, murder, briefly force, play the great part. In the tender annals of Political Economy, the idyllic reigns from time immemorial. Right and "labour" were from all time the sole means of enrichment, the present year of course always excepted. As a matter of fact, the methods of primitive accumulation are anything but idyllic.

In themselves, money and commodities are no more capital than are the means of production and of subsistence. They want transforming into capital. But this transformation itself can only take place under certain circumstances that centre in this, *viz.*, that two very different kinds of commodity-possessors must come face to face and into contact; on the one hand, the owners of money, means of production, means of subsistence, who are eager to increase the sum of values they possess, by buying other people's labour-power; on the other hand, free labourers, the sellers of their own labour-power, and therefore the sellers of labour. Free labourers, in the double sense that neither they themselves form part and parcel of the means of production, as in the case of slaves, bondsmen, &c., nor do the means of production belong to them, as in the case of peasant-proprietors; they are, therefore, free from, unencumbered by, any means of production of their own. With this polarisation of the market for commodities, the fundamental conditions of capitalist production are given. The capitalist system presupposes the complete separation of the labourers from all

property in the means by which they can realise their labour. As soon as capitalist production is once on its own legs, it not only maintains this separation, but reproduces it on a continually extending scale. The process, therefore, that clears the way for the capitalist system, can be none other than the process which takes away from the labourer the possession of his means of production; a process that transforms, on the one hand, the social means of subsistence and of production into capital, on the other, the immediate producers into wage-labourers. The so-called primitive accumulation, therefore, is nothing else than the historical process of divorcing the producer from the means of production. It appears as primitive, because it forms the pre-historic stage of capital and of the mode of production corresponding with it.

The economic structure of capitalistic society has grown out of the economic structure of feudal society. The dissolution of the latter set free the elements of the former.

The immediate producer, the labourer, could only dispose of his own person after he had ceased to be attached to the soil and ceased to be the slave, serf, or bondman of another. To become a free seller of labour-power, who carries his commodity wherever he finds a market, he must further have escaped from the regime of the guilds, their rules for apprentices and journeymen, and the impediments of their labour regulations. Hence, the historical movement which changes the producers into wage-workers, appears, on the one hand, as their emancipation from serfdom and from the fetters of the guilds, and this side alone exists for our bourgeois historians. But, on the other hand, these new freedmen became sellers of themselves only after they had been robbed of all their own means of production, and of all the guarantees of existence afforded by the old feudal arrangements. And the history of this, their expropriation, is written in the annals of mankind in letters of blood and fire.

The industrial capitalists, these new potentates, had on their part not only to displace the guild masters of handicrafts, but also the feudal lords, the possessors of the sources of wealth. In this respect their conquest of social power appears as the fruit of a victorious struggle both against feudal lordship and

its revolting prerogatives, and against the guilds and the fetters they laid on the free development of production and the free exploitation of man by man. The chevaliers d'industrie, however, only succeeded in supplanting the chevaliers of the sword by making use of events of which they themselves were wholly innocent. They have risen by means as vile as those by which the Roman freed-man once on a time made himself the master of his *patronus*.

The starting-point of the development that gave rise to the wage-labourer as well as to the capitalist, was the servitude of the labourer. The advance consisted in a change of form of this servitude, in the transformation of feudal exploitation into capitalist exploitation. To understand its march, we need not go back very far. Although we come across the first beginnings of capitalist production as early as the 14th or 15th century, sporadically, in certain towns of the Mediterranean, the capitalistic era dates from the 16th century. Wherever it appears, the abolition of serfdom has been long effected, and the highest development of the middle ages, the existence of sovereign towns, has been long on the wane.

In the history of primitive accumulation, all revolutions are epoch-making that act as levers for the capitalist class in course of formation; but, above all, those moments when great masses of men are suddenly and forcibly torn from their means of subsistence, and hurled as free and "unattached" proletarians on the labour market. The expropriation of the agricultural producer, of the peasant, from the soil, is the basis of the whole process. The history of this expropriation, in different countries, assumes different aspects, and runs through its various phases in different orders of succession, and at different periods. In England alone, which we take as our example, has it the classic form.[1]

[1] In Italy, where capitalistic production developed earliest, the dissolution of serfdom also took place earlier than elsewhere. The serf was emancipated in that country before he had acquired any prescriptive right to the soil. His emancipation at once transformed him into a free proletarian, who, moreover, found his master ready waiting for him in the towns, for the most part handed down as legacies from the Roman time. When the revolution of the world-market, about the end of the 15th century, annihilated Northern Italy's commercial supremacy, a movement in the reverse direction set in. The labourers of the towns were driven *en masse* into the country, and gave an impulse, never before seen, to the *petite culture*, carried on in the form of gardening.

CHAPTER XXVII.

EXPROPRIATION OF THE AGRICULTURAL POPULATION FROM THE LAND.

In England, serfdom had practically disappeared in the last part of the 14th century. The immense majority of the population [1] consisted then, and to a still larger extent, in the 15th century, of free peasant proprietors, whatever was the feudal title under which their right of property was hidden. In the larger seignorial domains, the old bailiff, himself a serf, was displaced by the free farmer. The wage-labourers of agriculture consisted partly of peasants, who utilised their leisure time by working on the large estates, partly of an independent special class of wage-labourers, relatively and absolutely few in numbers. The latter also were practically at the same time peasant farmers, since, besides their wages, they had alloted to them arable land to the extent of 4 or more acres, together with their cottages. Besides they, with the rest of the peasants, enjoyed the usufruct of the common land, which gave pasture to their cattle, furnished them with timber, fire-wood, turf, &c.[2] In all countries of Europe,

[1] "The petty proprietors who cultivated their own fields with their own hands, and enjoyed a modest competence . . . . then formed a much more important part of the nation than at present. If we may trust the best statistical writers of that age, not less than 160,000 proprietors who, with their families, must have made up more than a seventh of the whole population, derived their subsistence from little freehold estates. The average income of these small landlords . . . . was estimated at between £60 and £70 a year. It was computed that the number of persons who tilled their own land was greater than the number of those who farmed the land of others." Macaulay: History of England, 10th ed., 1854, I. p. 333, 334. Even in the last third of the 17th century, $\frac{4}{5}$ of the English people were agricultural. (l. c., p. 413.) I quote Macaulay, because as systematic falsifier of history he minimises as much as possible facts of this kind.

[2] We must never forget that even the serf was not only the owner, if but a tribute-paying owner, of the piece of land attached to his house, but also a co-possessor of the common land. "Le paysan y (in Silesia, under Frederick II.), est serf." Nevertheless, these serfs possess common lands. "On n' a pas pu encore engager les Silésiens au partage des communes, tandis que dans la Nouvelle Marche, il n'y a guère de village où ce partage ne soit exécuté avec le plus grand succès." (Mirabeau: De la Monarchie Prussienne. Londres, 1788, t. ii., pp. 125, 126.)

feudal production is characterised by division of the soil amongst the greatest possible number of sub-feudatories. The might of the feudal lord, like that of the sovereign, depended not on the length of his rent roll, but on the number of his subjects, and the latter depended on the number of peasant proprietors.[1] Although, therefore, the English land, after the Norman conquest, was distributed in gigantic baronies, one of which often included some 900 of the old Anglo-Saxon lordships, it was bestrewn with small peasant properties, only here and there interspersed with great seignorial domains. Such conditions, together with the prosperity of the towns so characteristic of the 15th century, allowed of that wealth of the people which Chancellor Fortescue so eloquently paints in his "Laudes legum Angliæ;" but it excluded the possibility of capitalistic wealth.

The prelude of the revolution that laid the foundation of the capitalist mode of production, was played in the last third of the 15th, and the first decade of the 16th century. A mass of free proletarians was hurled on the labour-market by the breaking-up of the bands of feudal retainers, who, as Sir James Steuart well says, "everywhere uselessly filled house and castle." Although the royal power, itself a product of bourgeois development, in its strife after absolute sovereignty forcibly hastened on the dissolution of these bands of retainers, it was by no means the sole cause of it. In insolent conflict with king and parliament, the great feudal lords created an incomparably larger proletariat by the forcible driving of the peasantry from the land, to which the latter had the same feudal right as the lord himself, and by the usurpation of the common lands. The rapid rise of the Flemish wool manufactures, and the corresponding rise in the price of wool in England, gave the direct impulse to these evictions. The old nobility had been devoured by the great feudal wars. The new nobility was the child of its time, for which money was

[1] Japan, with its purely feudal organisation of landed property and its developed *petite culture*, gives a much truer picture of the European middle ages than all our history books, dictated as these are, for the most part, by bourgeois prejudices. It is very convenient to be "liberal" at the expense of the middle ages.

the power of all powers. Transformation of arable land into sheep-walks was, therefore, its cry. Harrison, in his "Description of England, prefixed to Holinshed's Chronicle," describes how the expropriation of small peasants is ruining the country. "What care our great encroachers?" The dwellings of the peasants and the cottages of the labourers were razed to the ground or doomed to decay. "If," says Harrison, "the old records of euerie manour be sought . . . . it will soon appear that in some manour seventeene, eighteene, or twentie houses are shrunk . . . . that England was neuer less furnished with people than at the present . . . . Of cities and townes either utterly decaied or more than a quarter or half diminished, though some one be a little increased here or there; of townes pulled downe for sheepe-walks, and no more but the lordships now standing in them . . . . I could saie somewhat." The complaints of these old chroniclers are always exaggerated, but they reflect faithfully the impression made on contemporaries by the revolution in the conditions of production. A comparison of the writings of Chancellor Fortescue and Thomas More reveals the gulf between the 15th and 16th century. As Thornton rightly has it, the English working-class was precipitated without any transition from its golden into its iron age.

Legislation was terrified at this revolution. It did not yet stand on that height of civilisation where the "wealth of the nation" (*i.e.*, the formation of capital, and the reckless exploitation and impoverishing of the mass of the people) figure as the *ultima Thule* of all state-craft. In his history of Henry VII., Bacon says: "Inclosures at that time (1489) began to be more frequent, whereby arable land (which could not be manured without people and families) was turned into pasture, which was easily rid by a few herdsmen; and tenancies for years, lives, and at will (whereupon much of the yeomanry lived) were turned into demesnes. This bred a decay of people, and (by consequence) a decay of towns, churches, tithes, and the like. . . . . In remedying of this inconvenience the king's wisdom was admirable, and the parliament's at that time . . . . they took a course to take away depopulating inclosures, and

depopulating pasturage." An Act of Henry VII., 1489, cap. 19, forbad the destruction of all "houses of husbandry" to which at least 20 acres of land belonged. By an Act, 25 Henry VIII., the same law was renewed. It recites, among other things, that many farms and large flocks of cattle, especially of sheep, are concentrated in the hands of a few men, whereby the rent of land has much risen and tillage has fallen off, churches and houses have been pulled down, and marvellous numbers of people have been deprived of the means wherewith to maintain themselves and their families. The Act, therefore, ordains the rebuilding of the decayed farm-steads, and fixes a proportion between corn land and pasture land, &c. An Act of 1533 recites that some owners possess 24,000 sheep, and limits the number to be owned to 2000.[1] The cry of the people and the legislation directed, for 150 years after Henry VII., against the expropriation of the small farmers and peasants, were alike fruitless. The secret of their inefficiency Bacon, without knowing it, reveals to us. "The device of King Henry VII.," says Bacon, in his "Essays, Civil and Moral," Essay 29, "was profound and admirable, in making farms and houses of husbandry of a standard; that is, maintained with such a proportion of land unto them as may breed a subject to live in convenient plenty, and no servile condition, and to keep the plough in the hands of the owners and not mere hirelings."[2]

[1] In his "Utopia," Thomas More says, that in England "your shepe that were wont to be so meke and tame, and so smal eaters, now, as I heare saye, be become so great devourers and so wylde that they eate up, and swallow downe, the very men themselfes." "Utopia," transl. by Robinson., ed. Arber, Lond., 1869, p 41.

[2] Bacon shows the connexion between a free, well-to-do peasantry and good infantry. "This did wonderfully concern the might and mannerhood of the kingdom to have farms as it were of a standard sufficient to maintain an able body out of penury, and did in effect amortize a great part of the lands of the kingdom unto the hold and occupation of the yeomanry or middle people, of a condition between gentlemen, and cottagers and peasants. . . . . For it hath been held by the general opinion of men of best judgment in the wars . . . . that the principal strength of an army consisteth in the infantry or foot. And to make good infantry it requireth men bred, not in a servile or indigent fashion, but in some free and plentiful manner. Therefore, if a state run most to noblemen and gentlemen, and that the husbandmen and ploughmen be but as their workfolk and labourers, or else mere cottagers (which are but hous'd beggars), you may have a good cavalry, but never good stable bands of foot. . . . . And this is to be seen in France, and Italy, and some other parts abroad, where in effect all is noblesse or peasantry . . . . insomuch that they are

What the capitalist system demanded was, on the other hand, a degraded and almost servile condition of the mass of the people, the transformation of them into mercenaries, and of their means of labour into capital. During this transformation period, legislation also strove to retain the 4 acres of land by the cottage of the agricultural wage-labourer, and forbad him to take lodgers into his cottage. In the reign of James I., 1627, Roger Crocker of Front Mill, was condemned for having built a cottage on the manor of Front Mill without 4 acres of land attached to the same in perpetuity. As late as Charles I.'s reign, 1638, a royal commission was appointed to enforce the carrying out of the old laws, especially that referring to the 4 acres of land. Even in Cromwell's time, the building of a house within 4 miles of London was forbidden unless it was endowed with 4 acres of land. As late as the first half of the 18th century complaint is made if the cottage of the agricultural labourer has not an adjunct of one or two acres of land. Nowadays he is lucky if it is furnished with a little garden, or if he may rent, far away from his cottage, a few roods. "Landlords and farmers," says Dr. Hunter, "work here hand in hand. A few acres to the cottage would make the labourers too independent."[1]

The process of forcible expropriation of the people received in the 16th century a new and frightful impulse from the Reformation, and from the consequent colossal spoliation of the church property. The Catholic church was, at the time of the Reformation, feudal proprietor of a great part of the English land. The suppression of the monasteries, &c., hurled their inmates into the proletariat. The estates of the church were to a large extent given away to rapacious royal favourites, or sold at a nominal price to speculating farmers and citizens, who drove out, *en masse*, the hereditary

inforced to employ mercenary bands of Switzers and the like, for their battalions of foot; whereby also it comes to pass that those nations have much people and few soldiers." ("The Reign of Henry VII." Verbatim reprint from Kennet's England. Ed. 1719. Lond., 1870, p. 308.)

[1] Dr. Hunter, l. c., p. 134. "The quantity of land assigned (in the old laws) would now be judged too great for labourers, and rather as likely to convert them into small farmers." (George Roberts: "The Social History of the People of the Southern Counties of England in past centuries." Lond., 1856, pp. 184-185.)

sub-tenants and threw their holdings into one. The legally guaranteed property of the poorer folk in a part of the church's tithes was tacitly confiscated.[1] "Pauper ubique jacet," cried Queen Elizabeth, after a journey through England. In the 43rd year of her reign the nation was obliged to recognise pauperism officially by the introduction of a poor-rate. "The authors of this law seem to have been ashamed to state the grounds of it, for [contrary to traditional usage] it has no preamble whatever."[2] By the 16th of Charles I., ch. 4, it was declared perpetual, and in fact only in 1834 did it take a new and harsher form.[3] These immediate results of the Reformation were not its most lasting ones. The property of the church

[1] "The right of the poor to share in the tithe, is established by the tenour of ancient statutes." (Tuckett, l. c., Vol. II., pp. 804-805.)

[2] William Cobbett: "A History of the Protestant Reformation," § 471.

[3] The "spirit" of Protestantism may be seen from the following, among other things. In the south of England certain landed proprietors and well-to-do farmers put their heads together and propounded ten questions as to the right interpretation of the poor-law of Elizabeth. These they laid before a celebrated jurist of that time, Sergeant Snigge (later a judge under James I.) for his opinion. "Question 9—Some of the more wealthy farmers in the parish have devised a skilful mode by which all the trouble of executing this Act (the 43rd of Elizabeth) might be avoided. They have proposed that we shall erect a prison in the parish, and then give notice to the neighbourhood, that if any persons are disposed to farm the poor of this parish, they do give in sealed proposals, on a certain day, of the lowest price at which they will take them off our hands; and that they will be authorised to refuse to any one unless he be shut up in the aforesaid prison. The proposers of this plan conceive that there will be found in the adjoining counties, persons, who, being unwilling to labour and not possessing substance or credit to take a farm or ship, so as to live without labour, may be induced to make a very advantageous offer to the parish. If any of the poor perish under the contractor's care, the sin will lie at his door, as the parish will have done its duty by them. We are, however, apprehensive that the present Act (43rd of Elizabeth) will not warrant a prudential measure of this kind; but you are to learn that the rest of the freeholders of the county, and of the adjoining county of B, will very readily join in instructing their members to propose an Act to enable the parish to contract with a person to lock up and work the poor; and to declare that if any person shall refuse to be so locked up and worked, he shall be entitled to no relief. This, it is hoped, will prevent persons in distress from wanting relief, and be the means of keeping down parishes." (R. Blakey: "The History of Political Literature from the earliest Times." Lond., 1855, Vol. II., pp. 84-85.) In Scotland, the abolition of serfdom took place some centuries later than in England. Even in 1698, Fletcher of Saltoun, declared in the Scotch parliament, "The number of beggars in Scotland is reckoned at not less than 200,000. The only remedy that I, a republican on principle can suggest, is to restore the old state of serfdom, to make slaves of all those who are unable to provide for their own subsistence." Eden, l. c., Book I., ch. 1, pp. 60-61, says, "The decrease of villenage seems necessarily to have been the era of the origin of the poor. Manufactures and commerce are the two parents of our national poor." Eden, like our Scotch republican on principle, errs only in this:

formed the religious bulwark of the traditional conditions of landed property. With its fall these were no longer tenable.[1]

Even in the last decade of the 17th century, the yeomanry, the class of independent peasants, were more numerous than the class of farmers. They had formed the backbone of Cromwell's strength, and, even according to the confession of Macaulay, stood in favourable contrast to the drunken squires and to their servants, the country clergy, who had to marry their masters' cast-off mistresses. About 1750, the yeomanry had disappeared,[2] and so had, in the last decade of the 18th century, the last trace of the common land of the agricultural labourer. We leave on one side here the purely economic causes of the agricultural revolution. We deal only with the forcible means employed.

After the restoration of the Stuarts, the landed proprietors carried, by legal means, an act of usurpation, effected everywhere on the Continent without any legal formality. They abolished the feudal tenure of land, *i.e.*, they got rid of all its obligations to the State, "indemnified" the State by taxes on the peasantry and the rest of the mass of the people, vindicated for themselves the rights of modern private property in estates to which they had only a feudal title, and, finally, passed those laws of settlement, which, *mutatis mutandis*, had the same effect on the English agricultural labourer, as the edict of the Tartar Boris Godunof on the Russian peasantry.

The "glorious Revolution" brought into power, along with

not the abolition of villenage, but the abolition of the property of the agricultural labourer in the soil made him a proletarian, and eventually a pauper. In France, where the expropriation was effected in another way, the ordonnance of Moulins, 1571, and the Edict of 1656, correspond to the English poor-laws.

[1] Professor Rogers, although formerly Professor of Political Economy in the University of Oxford, the hotbed of Protestant orthodoxy, in his preface to the "History of Agriculture" lays stress on the fact of the pauperisation of the mass of the people by the Reformation.

[2] A letter to Sir T. C. Banbury, Bart., on the High Price of Provisions. By a Suffolk Gentleman. Ipswich, 1795, p. 4. Even the fanatical advocate of the system of large farms, the author of the "Inquiry into the connection of large farms, etc., London, 1773," p. 133, says: "I most lament the loss of our yeomanry, that set of men who really kept up the independence of this nation; and sorry I am to see their lands now in the hands of monopolizing lords, tenanted out to small farmers, who hold their leases on such conditions as to be little better than vassals ready to attend a summons on every mischievous occasion."

William of Orange, the landlord and capitalist appropriators of surplus-value.[1] They inaugarated the new era by practising on a colossal scale thefts of state lands, thefts that had been hitherto managed more modestly. These estates were given away, sold at a ridiculous figure, or even annexed to private estates by direct seizure.[2] All this happened without the slightest observation of legal etiquette. The crown lands thus fraudulently appropriated, together with the robbery of the Church estates, as far as these had not been lost again during the republican revolution, form the basis of the to-day princely domains of the English oligarchy.[3] The bourgeois capitalists favoured the operation with the view, among others, to promoting free trade in land, to extending the domain of modern agriculture on the large farm-system, and to increasing their supply of the free agricultural proletarians ready to hand. Besides, the new landed aristocracy was the natural ally of the new bankocracy, of the newly-hatched *haute finance*, and of the large manufacturers, then depending on protective duties. The English bourgeoisie acted for its own interest quite as wisely as did the Swedish bourgeoisie who, reversing the process, hand in hand with their economic allies, the peasantry, helped the kings in the forcible resumption of the Crown lands from the oligarchy. This happened since 1604 under Charles X. and Charles XI.

Communal property—always distinct from the State property just dealt with—was an old Teutonic institution which lived on under cover of feudalism. We have seen how the

[1] On the private moral character of this bourgeois hero, among other things: "The large grant of lands in Ireland to Lady Orkney, in 1695, is a public instance of the king's affection, and the lady's influence . . . Lady Orkney's endearing offices are supposed to have been—fœda labiorum ministeria." (In the Sloane Manuscript Collection, at the British Museum, No. 4224. The Manuscript is entitled: "The charakter and behaviour of King William, Sunderland, etc., as represented in Original Letters to the Duke of Shrewsbury, from Somers Halifax, Oxford, Secretary Vernon, etc." It is full of curiosa.)

[2] "The illegal alienation of the Crown Estates, partly by sale and partly by gift, is a scandalous chapter in English history . . . a gigantic fraud on the nation." (F. W. Newman, Lectures on Political Economy. London, 1851, pp. 129, 130.) [For details as to how the present large landed proprietors of England came into their possessions see "Our Old Nobility. By Noblesse Oblige." London, 1879.—Ed.]

[3] Read, *e.g.*, E. Burke's Pamphlet on the ducal house of Bedford, whose offshoot was Lord John Russell, the "tomtit of Liberalism."

forcible usurpation of this, generally accompanied by the turning of arable into pasture land, begins at the end of the 15th and extends into the 16th century. But, at that time, the process was carried on by means of individual acts of violence against which legislation, for a hundred and fifty years, fought in vain. The advance made by the 18th century shows itself in this, that the law itself becomes now the instrument of the theft of the people's land, although the large farmers make use of their little independent methods as well.[1] The parliamentary form of the robbery is that of Acts for enclosures of Commons, in other words, decrees by which the landlords grant themselves the people's land as private property, decrees of expropriation of the people. Sir F. M. Eden refutes his own crafty special pleading, in which he tries to represent communal property as the private property of the great landlords who have taken the place of the feudal lords, when he, himself, demands a "general Act of Parliament for the enclosure of Commons," (admitting thereby that a parliamentary *coup d'état* is necessary for its transformation into private property), and moreover calls on the legislature for the indemnification for the expropriated poor.[2]

Whilst the place of the independent yeoman was taken by tenants at will, small farmers on yearly leases, a servile rabble dependent on the pleasure of the landlords, the systematic robbery of the Communal lands helped especially, next to the theft of the State domains, to swell those large farms, that were called in the 18th century capital farms[3] or merchant farms,[4] and to "set free" the agricultural population as proletarians for manufacturing industry.

[1] "The farmers forbid cottagers to keep any living creatures besides themselves and children, under the pretence that if they keep any beasts or poultry, they will steal from the farmers' barns for their support; they also say, keep the cottages poor and you will keep them industrious, &c., but the real fact, I believe, is that the farmers may have the whole right of common to themselves." (A Political Inquiry into the consequences of enclosing Waste Lands. London, 1785 p. 75.)

[2] Eden, l. c. preface.

[3] "Capital Farms." Two letters on the Flour Trade and the Dearness of Corn. By a person in business. London, 1767, pp. 19, 20.

[4] "Merchant Farms." An Inquiry into the present High Prices of Provisions. London, 1767, p. 11. Note.—This excellent work, that was published anonymously, is by the Rev. Nathaniel Forster.

The 18th century, however, did not yet recognise as fully as the 19th, the identity between national wealth and the poverty of the people. Hence the most vigorous polemic, in the economic literature of that time, on the "enclosure of commons." From the mass of materials that lie before me, I give a few extracts that will throw a strong light on the circumstances of the time. "In several parishes of Hertfordshire," writes one indignant person, "24 farms, numbering on the average 50-150 acres, have been melted up into three farms."[1] "In Northamptonshire and Leicestershire the enclosure of common lands has taken place on a very large scale, and most of the new lordships, resulting from the enclosure, have been turned into pasturage, in consequence of which many lordships have not now 50 acres ploughed yearly, in which 1500 were ploughed formerly. The ruins of former dwelling-houses, barns, stables, &c.," are the sole traces of the former inhabitants. "An hundred houses and families have in some open field villages . . . . dwindled to eight or ten . . . . The landholders in most parishes that have been enclosed only 15 or 20 years, are very few in comparison of the numbers who occupied them in their open-field state. It is no uncommon thing for 4 or 5 wealthy graziers to engross a large enclosed lordship which was before in the hands of 20 or 30 farmers, and as many smaller tenants and proprietors. All these are hereby thrown out of their livings with their families and many other families who were chiefly employed and supported by them."[2] It was not only the land that lay waste, but often land cultivated either in common or held under a definite rent paid to the community, that was annexed by the neighbouring landlords under pretext of enclosure. "I have here in view enclosures of open fields and lands already improved. It is acknowledged by even the writers in defence of enclosures that these diminished villages increase the monopolies of farms, raise the prices of provisions, and produce depopulation . . . . and even the enclosure of waste lands (as now carried on) bears hard on

[1] Thomas Wright: A short address to the public on the monopoly of large farms, 1779, pp. 2, 3.

[2] Rev. Addington: Inquiry into the reasons for or against enclosing open fields. London, 1772, pp. 37, 43 passim.

the poor, by depriving them of a part of their subsistence, and only goes towards increasing farms already too large.[1] "When," says Dr. Price, "this land gets into the hands of a few great farmers, the consequence must be that the little farmers" (earlier designated by him "a multitude of little proprietors and tenants, who maintain themselves and families by the produce of the ground they occupy by sheep kept on a common, by poultry, hogs, &c., and who therefore have little occasion to purchase any of the means of subsistence") "will be converted into a body of men who earn their subsistence by working for others, and who will be under a necessity of going to market for all they want . . . . There will, perhaps, be more labour, because there will be more compulsion to it . . . . Towns and manufacturers will increase, because more will be driven to them in quest of places and employment. This is the way in which the engrossing of farms naturally operates. And this is the way in which, for many years, it has been actually operating in this kingdom.[2] He sums up the effect of the enclosures thus: "Upon the whole, the circumstances of the lower ranks of men are altered in almost every respect for the worse. From little occupiers of land, they are reduced to the state of day-labourers and hirelings; and, at the same time, their subsistence in that state has become more difficult."[3] In fact,

[1] Dr. R. Price, l. c., v. ii., p. 155, Forster, Addington, Kent, Price, and James Anderson, should be read and compared with the miserable prattle of Sycophant MacCulloch in his catalogue: The Literature of Political Economy, London, 1845.

[2] Price, l. c., p. 147.

[3] Price, l. c., p, 159. We are reminded of ancient Rome. "The rich had got possession of the greater part of the undivided land. They trusted in the conditions of the time, that these possessions would not be again taken from them, and bought, therefore, some of the pieces of land lying near theirs, and belonging to the poor, with the acquiescence of their owners, and took some by force, so that they now were cultivating widely extended domains, instead of isolated fields. Then they employed slaves in agriculture and cattle-breeding, because freemen would have been taken from labour for military service. The possession of slaves brought them great gain, inasmuch as these, on account of their immunity from military service, could freely multiply and have a multitude of children. Thus the powerful men drew all wealth to themselves, and all the land swarmed with slaves. The Italians, on the other hand, were always decreasing in number, destroyed as they were by poverty, taxes, and military service. Even when times of peace came, they were doomed to complete inactivity, because the rich were in possession of the soil, and used slaves instead of free men in the tilling of it." (Appian: Civil Wars, I. 7.) This passage refers to the time before the Licinian rogations. Military service, which hastened to so great an

usurpation of the common lands and the revolution in agriculture accompanying this, told so acutely on the agricultural labourers that, even according to Eden, between 1765 and 1780, their wages began to fall below the minimum, and to be supplemented by official poor-law relief. Their wages, he says "were not more than enough for the absolute necessaries of life."

Let us hear for a moment a defender of enclosures and an opponent of Dr. Price. "Nor is it a consequence that there must be depopulation, because men are not seen wasting their labour in the open field . . . . If, by converting the little farmers into a body of men who must work for others, more labour is produced, it is an advantage which the nation" (to which, of course, the "converted" ones do not belong) "should wish for . . . . the produce being greater when their joint labours are employed on one farm, there will be a surplus for manufactures, and by this means manufactures, one of the mines of the nation, will increase, in proportion to the quantity of corn produced."[1]

The stoical peace of mind with which the political economist regards the most shameless violation of the "sacred rights of property" and the grossest acts of violence to persons, as soon as they are necessary to lay the foundations of the capitalistic mode of production, is shown by Sir. F. M. Eden, philanthropist and tory, to boot. The whole series of thefts, outrages, and popular misery, that accompanied the forcible expropriation of the people, from the last third of the 15th to the end of the 18th century, lead him merely to the comfortable conclusion: "The due proportion between arable land and pasture had to be established. During the whole of the 14th and the greater part of the 15th century, there was one acre of pasture to 2,

extent the ruin of the Roman plebeians, was also the chief means by which, as in a forcing-house, Charlemagne brought about the transformation of free German peasants into serfs and bondsmen.

[1] An Inquiry into the Connection between the Present Prices of Provisions, &c., p. 124, 129. To the like effect, but with an opposite tendency: "Working-men are driven from their cottages and forced into the towns to seek for employment; but then a larger surplus is obtained, and thus capital is augmented." (The Perils of the Nation, 2nd ed. London. 1843, p. 14.)

3, and even 4 of arable land. About the middle of the 16th century the proportion was changed to 2 acres of pasture to 2, later on, of 2 acres of pasture to one of arable, until at last the just proportion of 3 acres of pasture to one of arable land was attained."

In the 19th century, the very memory of the connexion between the agricultural labourer and the communal property had, of course, vanished. To say nothing of more recent times, have the agricultural population received a farthing of compensation for the 3,511,770 acres of common land which between 1801 and 1831 were stolen from them and by parliamentary devices presented to the landlords by the landlords?

The last process of wholesale expropriation of the agricultural population from the soil is, finally, the so-called clearing of estates, *i.e.*, the sweeping men off them. All the English methods hitherto considered culminated in "clearing." As we saw in the picture of modern conditions given in a former chapter, where there are no more independent peasants to get rid of, the "clearing" of cottages begins; so that the agricultural labourers do not find on the soil cultivated by them even the spot necessary for their own housing. But what "clearing of estates" really and properly signifies, we learn only in the promised land of modern romance, the Highlands of Scotland. There the process is distinguished by its systematic character, by the magnitude of the scale on which it is carried out at one blow (in Ireland landlords have gone to the length of sweeping away several villages at once; in Scotland areas as large as German principalities are dealt with), finally by the peculiar form of property, under which the embezzled lands were held.

The Highland Celts were organised in clans, each of which was the owner of the land on which it was settled. The representative of the clan, its chief or "great man," was only the titular owner of this property, just as the Queen of England is the titular owner of all the national soil. When the English government succeeded in suppressing the intestine wars of these "great men," and their constant incursions into the Lowland plains, the chiefs of the clans by no means gave up

their time-honoured trade as robbers; they only changed its form. On their own authority they transformed their nominal right into a right of private property, and as this brought them into collision with their clansmen, resolved to drive them out by open force. "A king of England might as well claim to drive his subjects into the sea," says Professor Newman. This revolution, which began in Scotland after the last rising of the followers of the Pretender, can be followed through its first phases in the writings of Sir James Steuart [2] and James Anderson.[3] In the 18th century the hunted-out Gaels were forbidden to emigrate from the country, with a view to driving them by force to Glasgow and other manufacturing towns.[4] As an example of the method [5] obtaining in the 19th century, the "clearing" made by the Duchess of Sutherland

[1] l. c., p. 132.

[2] Steuart says: "If you compare the rent of these lands" (he erroneously includes in this economic category the tribute of the taskmen to the clan-chief) "with the extent, it appears very small. If you compare it with the numbers fed upon the farm, you will find that an estate in the Highlands maintains, perhaps, ten times as many people as another of the same value in a good and fertile province." (l. c., vol. i., ch. xvi., p. 104.)

[3] James Anderson: Observations on the means of exciting a spirit of National Industry, &c. Edinburgh, 1777.

[4] In 1860 the people expropriated by force were exported to Canada under false pretences. Some fled to the mountains and neighbouring islands. They were followed by the police, came to blows with them and escaped.

[5] "In the Highlands of Scotland," says Buchanan, the commentator on Adam Smith, 1814, "the ancient state of property is daily subverted . . . . The landlord, without regard to the hereditary tenant (a category used in error here), now offers his land to the highest bidder, who, if he is an improver, instantly adopts a new system of cultivation. The land, formerly overspread with small tenants or labourers, was peopled in proportion to its produce, but under the new system of improved cultivation and increased rents, the largest possible produce is obtained at the least possible expense: and the useless hands being, with this view, removed, the population is reduced, not to what the land will maintain, but to what it will employ. The dispossessed tenants either seek a subsistence in the neighbouring towns," &c. (David Buchanan: Observations on, &c., A. Smith's Wealth of Nations. Edinburgh, 1814, vol. iv., p. 144.) "The Scotch grandees dispossessed families as they would grub up coppice-wood, and they treated villages and their people as Indians harassed with wild beasts do, in their vengeance, a jungle with tigers . . . . Man is bartered for a fleece or a carcase of mutton, nay, held cheaper . . . . Why, how much worse is it than the intention of the Moguls, who, when they had broken into the northern provinces of China, proposed in council to exterminate the inhabitants, and convert the land into pasture. This proposal many Highland proprietors have effected in their own country against their own countrymen." (George Ensor: An inquiry concerning the population of nations. Lond., 1818, pp. 215, 216.)

will suffice here. This person, well instructed in economy, resolved, on entering upon her government, to effect a radical cure, and to turn the whole country, whose population had already been, by earlier processes of the like kind, reduced to 15,000, into a sheep-walk. From 1814 to 1820 these 15,000 inhabitants, about 3000 families, were systematically hunted and rooted out. All their villages were destroyed and burnt, all their fields turned into pasturage. British soldiers enforced this eviction, and came to blows with the inhabitants. One old woman was burnt to death in the flames of the hut, which she refused to leave. Thus this fine lady appropriated 794,000 acres of land that had from time immemorial belonged to the clan. She assigned to the expelled inhabitants about 6000 acres on the sea-shore—2 acres per family. The 6000 acres had until this time lain waste, and brought in no income to their owners. The Duchess, in the nobility of her heart, actually went so far as to let these at an average rent of 2s. 6d. per acre to the clansmen, who for centuries had shed their blood for her family. The whole of the stolen clan-land she divided into 29 great sheep farms, each inhabited by a single family, for the most part imported English farm-servants. In the year 1835 the 15,000 Gaels were already replaced by 131,000 sheep. The remnant of the aborigines flung on the sea-shore, tried to live by catching fish. They became amphibious and lived, as an English author says, half on land and half on water, and withal only half on both.[1]

But the brave Gaels must expiate yet more bitterly their idolatry, romantic and of the mountains, for the "great men" of the clan. The smell of their fish rose to the noses of the great men. They scented some profit in it, and let the sea-

[1] When the present Duchess of Sutherland entertained Mrs. Beecher Stowe, authoress of "Uncle Tom's Cabin," with great magnificence in London, to show her sympathy for the negro slaves of the American republic—a sympathy that she prudently forgot, with her fellow-aristocrats, during the civil war, in which every "noble" English heart beat for the slave-owner—I gave in the "New York Tribune" the facts about the Sutherland slaves. (Epitomised in part by Carey in The Slave Trade. London, 1853, p. 202, 203.) My article was reprinted in a Scotch newspaper, and led to a pretty polemic between the latter and the sycophants of the Sutherlands.

shore to the great fishmongers of London. For the second time the Gaels were hunted out.[1]

But, finally, part of the sheep-walks are turned into deer preserves. Every one knows that there are no real forests in England. The deer in the parks of the great are demurely domestic cattle, fat as London aldermen. Scotland is therefore the last refuge of the "noble passion." "In the Highlands," says Somers in 1848, "new forests are springing up like mushrooms. Here, on one side of Gaick, you have the new forest of Glenfeshie; and there on the other you have the new forest of Ardverikie. In the same line you have the Black Mount, an immense waste also recently erected. From east to west—from the neighbourhood of Aberdeen to the crags of Oban—you have now a continuous line of forests; while in other parts of the Highlands there are the new forests of Loch Archaig, Glengarry, Glenmoriston, &c. Sheep were introduced into glens which had been the seats of communities of small farmers; and the latter were driven to seek subsistence on coarser and more sterile tracks of soil. Now deer are supplanting sheep; and these are once more dispossessing the small tenants, who will necessarily be driven down upon still coarser land and to more grinding penury. Deer forests [2] and the people cannot co-exist. One or other of the two must yield. Let the forests be increased in number and extent during the next quarter of a century, as they have been in the last, and the Gaels will perish from their native soil . . . This movement among the Highland proprietors is with some a matter of ambition. . . . with some love of sport. . . . while others, of a more practical cast, follow the trade in deer with an eye solely to profit. For it is a fact, that a mountain range laid out in forest is, in many cases, more profitable to the proprietor than when let as a sheep walk. . . . The

[1] Interesting details on this fish trade will be found in Mr. David Urquhart's Portfolio, new series.—Nassau W. Senior, in his posthumous work, already quoted, terms "the proceedings in Sutherlandshire one of the most beneficent clearings since the memory of man." (l. c.)

[2] The deer-forests of Scotland contain not a single tree. The sheep are driven from, and then the deer driven to, the naked hills, and then it is called a deer forest. Not even timber-planting and real forest culture.

huntsman who wants a deer-forest limits his offers by no other calculation than the extent of his purse. . . . Sufferings have been inflicted in the Highlands scarcely less severe than those occasioned by the policy of the Norman kings. Deer have received extended ranges, while men have been hunted within a narrower and still narrower circle. . . . One after one the liberties of the people have been cloven down. . . . And the oppressions are daily on the increase. . . . The clearance and dispersion of the people is pursued by the proprietors as a settled principle, as an agricultural necessity, just as trees and brushwood are cleared from the wastes of America or Australia; and the operation goes on in a quiet, business-like way, &c."[1]

[1] Robert Somers: Letters from the Highlands: or the Famine of 1847. London 1848, pp. 12-28 passim. These letters originally appeared in the "Times." The English economists of course explained the famine of the Gaels in 1847, by their overpopulation. At all events, they "were pressing on their food-supply." The "clearing of estates," or as it is called in Germany "Bauernlegen," occurred in Germany especially after the 30 years' war, and led to peasant-revolts as late as 1790 in Kursachsen. It obtained especially in East Germany. In most of the Prussian provinces, Frederick II. for the first time secured right of property for the peasants. After the conquest of Silesia he forced the landlords to rebuild the huts, barns, etc., and to provide the peasants with cattle and implements. He wanted soldiers for his army and tax-payers for his treasury. For the rest, the pleasant life that the peasant led under Frederick's system of finance and hodge-podge rule of despotism, bureaucracy and feudalism, may be seen from the following quotation from his admirer, Mirabeau: "Le lin fait donc une des grandes richesses du cultivateur dans le Nord de l'Allemagne. Malheureusement pour l'espèce humaine, ce n'est qu'une ressource contre la misère et non un moyen de bien-être. Les impôts directs, les corvées, les servitudes de tout genre, écrasent le cultivateur allemand, qui paie encore des impôts indirects dans tout ce qu'il achète. . . . et pour comble de ruine, il n'ose pas vendre ses productions où et comme il le veut; il n'ose pas acheter ce dont il a besoin aux marchands qui pourraient le lui livrer au meilleur prix. Toutes ces causes le ruinent insensiblement, et il se trouverait hors d'état de payer les impôts directs à l'échéance sans la filerie; elle lui offre une ressource, en occupant utilement sa femme, ses enfants, ses servants, ses valets, et lui-même; mais quelle pénible vie, même aidée de ce secours. En été, il travaille comme un forçat au labourage et à la récolte; il se couche à 9 heures et se lève à deux, pour suffire aux travaux; en hiver il devrait réparer ses forces par un plus grand repos; mais il manquera de grains pour le pain et les semailles, s'il se défait des denrées qu'il faudrait vendre pour payer les impôts. Il faut donc filer pour suppléer à ce vide. . . . il faut y apporter la plus grande assiduité. Aussi le paysan se couche-t-il en hiver à minuit, une heure, et se lève à cinq ou six; ou bien il se couche à neuf, et se lève à deux, et cela tous les jours de la vie si ce n'est le dimanche. Ces excès de veille et de travail usent la nature humaine, et de là vient qu' hommes et femmes vieillissent beaucoup plûtôt dans les campagnes que dans les villes. (Mirabeau, l. c. t. III., pp. 212 sqq.)

Note to the second edition. In April 1866, 18 years after the publication of the work

The spoliation of the church's property, the fraudulent alienation of the State domains, the robbery of the common lands, the usurpation of feudal and clan property, and its transformation into modern private property under circumstances of reckless terrorism, were just so many idyllic methods of primitive accumulation. They conquered the field for capitalistic agriculture, made the soil part and parcel of capital, and created for the town industries the necessary supply of a "free" and outlawed proletariat.

of Robert Somers quoted above, Professor Leone Levi gave a lecture before the Society of Arts on the transformation of sheep walks into deer-forest, in which he depicts the advance in the devastation of the Scottish Highlands. He says, with other things: "Depopulation and transformation into sheep-walks were the most convenient means for getting an income without expenditure . . . A deer forest in place of a sheep-walk was a common change in the Highlands. The landowners turned out the sheep as they once turned out the men from their estates, and welcomed the new tenants —the wild beasts and the feathered birds. . . . One can walk from the Earl of Dalhousie's estates in Forfarshire to John o' Groats, without ever leaving forest land. . . . In many of these woods the fox, the wild cat, the marten, the polecat, the weasel and the Alpine hare are common; whilst the rabbit, the squirrel and the rat have lately made their way into the country. Immense tracts of land, much of which is described in the statistical account of Scotland as having a pasturage in richness and extent of very superior description, are thus shut out from all cultivation and improvment, and are solely devoted to the sport of a few persons for a very brief period of the year." *The London Economist* of June 2, 1866, says, "Amongst the items of news in a Scotch paper of last week, we read. . . 'One of the finest sheep farms in Sutherlandshire, for which a rent of £1,200 a year was recently offered, on the expiry of the existing lease this year, is to be converted into a deer forest.' Here we see the modern instincts of feudalism. . . . operating pretty much as they did when the Norman Conqueror. . . . destroyed 36 villages to create the New Forest. . . . Two millions of acres. . . . totally laid waste, embracing within their area some of the most fertile lands of Scotland. The natural grass of Glen Tilt was among the most nutritive in the county of Perth. The deer forest of Ben Aulder was by far the the best grazing ground in the wide district of Badenoch; a part of the Black Mount forest was the best pasture for black-faced sheep in Scotland. Some idea of the ground laid waste for purely sporting purposes in Scotland may be formed from the fact that it embraced an area larger than the whole county of Perth. The resources of the forest of Ben Aulder might give some idea of the loss sustained from the forced desolations. The ground would pasture 15,000 sheep, and as it was not more than one-thirtieth part of the old forest ground in Scotland. . . . it might &c., . . . All that forest land is as totally unproductive. . . . It might thus as well have been submerged under the waters of the German Ocean. . . . Such extemporized wildernesses or deserts ought to be put down by the decided interference of the Legislature."

CHAPTER XXVIII.

BLOODY LEGISLATION AGAINST THE EXPROPRIATED, FROM THE END OF THE 15TH CENTURY. FORCING DOWN OF WAGES BY ACTS OF PARLIAMENT.

THE proletariat created by the breaking up of the bands of feudal retainers and by the forcible expropriation of the people from the soil, this "free" proletariat could not possibly be absorbed by the nascent manufactures as fast as it was thrown upon the world. On the other hand, these men, suddenly dragged from their wonted mode of life, could not as suddenly adapt themselves to the discipline of their new condition. They were turned *en masse* into beggars, robbers, vagabonds, partly from inclination, in most cases from stress of circumstances. Hence at the end of the 15th and during the whole of the 16th century, throughout Western Europe a bloody legislation against vagabondage. The fathers of the present working-class were chastised for their enforced transformation into vagabonds and paupers. Legislation treated them as "voluntary" criminals, and assumed that it depended on their own goodwill to go on working under the old conditions that no longer existed.

In England this legislation began under Henry VII.

Henry VIII. 1530: Beggars old and unable to work receive a beggar's licence. On the other hand, whipping and imprisonment for sturdy vagabonds. They are to be tied to the cart-tail and whipped until the blood streams from their bodies, then to swear an oath to go back to their birthplace or to where they have lived the last three years and to "put themselves to labour." What grim irony! In 27 Henry VIII. the former statute is repeated, but strengthened with new clauses. For the second arrest for vagabondage the whipping is to be repeated and half the ear sliced off; but for the third relapse the offender is to be executed as a hardened criminal and enemy of the common weal.

Edward VI.: A statute of the first year of his reign, 1547,

ordains that if anyone refuses to work, he shall be condemned as a slave to the person who has denounced him as an idler. The master shall feed his slave on bread and water, weak broth and such refuse meat as he thinks fit. He has the right to force him to do any work, no matter how disgusting, with whip and chains. If the slave is absent a fortnight, he is condemned to slavery for life and is to be branded on forehead or back with the letter S; if he runs away thrice, he is to be executed as a felon. The master can sell him, bequeath him, let him out on hire as a slave, just as any other personal chattel or cattle. If the slaves attempt anything against the masters, they are also to be executed. Justices of the peace, on information, are to hunt the rascals down. If it happens that a vagabond has been idling about for three days, he is to be taken to his birthplace, branded with a redhot iron with the letter V on the breast and be set to work, in chains, in the streets or at some other labour. If the vagabond gives a false birthplace, he is then to become the slave for life of this place, of its inhabitants, or its corporation, and to be branded with an S. All persons have the right to take away the children of the vagabonds and to keep them as apprentices, the young men until the 24th year, the girls until the 20th. If they run away, they are to become up to this age the slaves of their masters, who can put them in irons, whip them, &c., if they like. Every master may put an iron ring round the neck, arms or legs of his slave, by which to know him more easily and to be more certain of him.[1] The last part of this statute provides, that certain poor people may be employed by a place or by persons, who are willing to give them food and drink and to find them work. This kind of parish-slaves was kept up in England until far into the 19th century under the name of "roundsmen."

Elizabeth, 1572: Unlicensed beggars above 14 years of age are to be severely flogged and branded on the left ear unless some one will take them into service for two years; in case of a

[1] The author of the Essay on Trade, etc., 1770, says, "In the reign of Edward VI. indeed the English seem to have set, in good earnest, about encouraging manufactures and employing the poor. This we learn from a remarkable statute which runs thus: 'That all vagrants shall be branded, &c.'" l. c., p. 5.

repetition of the offence, if they are over 18, they are to be executed, unless some one will take them into service for two years; but for the third offence they are to be executed without mercy as felons. Similar statutes: 18 Elizabeth, c. 13, and another of 1597.

James I: Any one wandering about and begging is declared a rogue and a vagabond. Justices of the peace in petty sessions are authorised to have them publicly whipped and for the first offence to imprison them for 6 months, for the second for 2 years. Whilst in prison they are to be whipped as much and as often as the justices of the peace think fit . . . Incorrigible and dangerous rogues are to be branded with an R on the left shoulder and set to hard labour, and if they are caught begging again, to be executed without mercy. These statutes, legally binding until the beginning of the 18th century, were only repealed by 12 Ann, c. 23.

[1] Thomas More says in his Utopia: "Therefore that on covetous and unsatiable cormaraunte and very plage of his native contrey maye compasse aboute and inclose many thousand akers of grounde together within one pale or hedge, the husbandmen be thrust owte of their owne, or els either by coneyne and fraude, or by violent oppression they be put besydes it, or by wrongs and iniuries thei be so weried that they be compelled to sell all: by one meanes, therfore, or by other, either by hooke or crooke they muste needes departe awaye, poore, selye, wretched soules, men, women, husbands, wiues, fatherlesse children, widowes, wofull mothers with their yonge babes, and their whole household smal in substance, and muche in numbre, as husbandrye requireth many handes. Awaye thei trudge, I say, owte of their knowen accustomed houses, fyndynge no place to reste in. All their housholde stuffe, which is very little woorthe, thoughe it might well abide the sale: yet beeynge sodainely thruste owte, they be constrayned to sell it for a thing of nought. And when they haue wandered abrode tyll that be spent, what can they then els doe but steale, and then iustly pardy be hanged, or els go about beggyng. And yet then also they be caste in prison as vagabounde, because they go aboute and worke not: whom no man wyl set a worke though thei neuer so willyngly profre themselues therto." Of these poor fugitives of whom Thomas More says that they were forced to thieve, "7200 great and petty thieves were put to death," in the reign of Henry VIII. (Hollinshed, description of England, Vol. 1., p. 186.) In Elizabeth's time, "rogues were trussed up apace, and that there was not one year commonly wherein three or four hundred were not devoured and eaten up by the gallowes." (Strype's Annals of the Reformation and Establishment of Religion, and other Various Occurrences in the Church of England during Queen Elizabeth's Happy Reign. Second ed., 1725, Vol. 2.) According to this same Strype, in Somersetshire, in one year, 40 persons were executed, 35 robbers burnt in the hand, 37 whipped, and 183 discharged as "incorrigible vagabonds." Nevertheless, he is of opinion that this large number of prisoners does not comprise even a fifth of the actual criminals, thanks to the negligence of the justices and the foolish compassion of the people; and the other counties of England were not better off in this respect than Somersetshire, while some were even worse.

Similar laws in France, where by the middle of the 17th century a kingdom of vagabonds (truands) was established in Paris. Even at the beginning of Louis XVI.'s reign (Ordinance of July 13th, 1777) every man in good health from 16 to 60 years of age, if without means of subsistence and not practising a trade, is to be sent to the galleys. Of the same nature are the statute of Charles V. for the Netherlands (October, 1537), the first edict of the States and Towns of Holland (March 10, 1614), the "Plakaat" of the United Provinces (June 26, 1649), &c.

Thus were the agricultural people, first forcibly expropriated from the soil, driven from their homes, turned into vagabonds, and then whipped, branded, tortured by laws grotesquely terrible, into the discipline necessary for the wage system.

It is not enough that the conditions of labour are concentrated in a mass, in the shape of capital, at the one pole of society, while at the other are grouped masses of men, who have nothing to sell but their labour-power. Neither is it enough that they are compelled to sell it voluntarily. The advance of capitalist production developes a working-class, which by education, tradition, habit, looks upon the conditions of that mode of production as self-evident laws of nature. The organization of the capitalist process of production, once fully developed, breaks down all resistance. The constant generation of a relative surplus-population keeps the law of supply and demand of labour, and therefore keeps wages, in a rut that corresponds with the wants of capital. The dull compulsion of economic relations completes the subjection of the labourer to the capitalist. Direct force, outside economic conditions, is of course still used, but only exceptionally. In the ordinary run of things, the labourer can be left to the "natural laws of production," *i.e.*, to his dependence on capital, a dependence springing from, and guaranteed in perpetuity by, the conditions of production themselves. It is otherwise during the historic genesis of capitalist production. The bourgeoisie, at its rise, wants and uses the power of the state to "regulate" wages, *i.e.*, to force them within the limits suitable for surplus-value making, to lengthen the working-day and to keep the labourer

himself in the normal degree of dependence. This is an essential element of the so-called primitive accumulation.

The class of wage-labourers, which arose in the latter half of the 14th century, formed then and in the following century only a very small part of the population, well protected in its position by the independent peasant proprietary in the country and the guild-organization in the town. In country and town master and workmen stood close together socially. The subordination of labour to capital was only formal—*i.e.*, the mode of production itself had as yet no specific capitalistic character. Variable capital preponderated greatly over constant. The demand for wage-labour grew, therefore, rapidly with every accumulation of capital, whilst the supply of wage-labour followed but slowly. A large part of the national product, changed later into a fund of capitalist accumulation, then still entered into the consumption fund of the labourer.

Legislation on wage-labour, (from the first, aimed at the exploitation of the labourer and, as it advanced, always equally hostile to him),[1] is started in England by the Statute of Labourers, of Edward III., 1349. The ordinance of 1350 in France, issued in the name of King John, corresponds with it. English and French legislation run parallel and are identical in purport. So far as the labour-statutes aim at compulsory extension of the working-day, I do not return to them, as this point was treated earlier (Chap. X., Section 5).

The Statute of Labourers was passed at the urgent instance of the House of Commons. A Tory says naively: "Formerly the poor demanded such *high* wages as to threaten industry and wealth. Next, their wages are so *low* as to threaten industry and wealth equally and perhaps more, but in another way."[2] A tariff of wages was fixed by law for town and country, for piece-work and day-work. The agricultural labourers were to hire themselves out by the year, the town ones "in open

[1] "Whenever the legislature attempts to regulate the differences between masters and their workmen, its counsellors are always the masters," says A. Smith. "L'esprit des lois, c'est la propriété," says Linguet.

[2] "Sophisms of Free Trade." By a Barrister. Lond., 1850, p. 53. He adds maliciously: "We were ready enough to interfere for the employer, can nothing now be done for the employed?"

market." It was forbidden, under pain of imprisonment, to pay higher wages than those fixed by the statute, but the taking of higher wages was more severely punished than the giving them. [So also in Sections 18 and 19 of the Statute of Apprentices of Elizabeth, ten days' imprisonment is decreed for him that pays the higher wages, but twenty-one days for him that receives them.] A statute of 1360 increased the penalties and authorised the masters to extort labour at the legal rate of wages by corporal punishment. All combinations, contracts, oaths, &c., by which masons and carpenters reciprocally bound themselves, were declared null and void. Coalition of the labourers is treated as a heinous crime from the 14th century to 1825, the year of the repeal of the laws against Trades' Unions. The spirit of the Statute of Labourers of 1349 and of its offshoots, comes out clearly in the fact, that indeed a maximum of wages is dictated by the State, but on no account a minimum.

In the 16th century, the condition of the labourers had, as we know, become much worse. The money wage rose, but not in proportion to the depreciation of money and the corresponding rise in the prices of commodities. Wages, therefore, in reality, fell. Nevertheless, the laws for keeping them down remained in force, together with the ear-clipping and branding of those "whom no one was willing to take into service." By the Statute of Apprentices 5 Elizabeth, c. 3, the justices of the peace were empowered to fix certain wages and to modify them according to the time of the year and the price of commodities. James I. extended these regulations of labour also to weavers, spinners, and all possible categories of workers.[1] George II.

[1] From a clause of Statute 2 James I., c. 6, we see that certain cloth-makers took upon themselves to dictate, in their capacity of justices of the peace, the official tariff of wages in their own shops. In Germany, especially after the Thirty Years' War, statutes for keeping down wages were general. "The want of servants and labourers was very troublesome to the landed proprietors in the depopulated districts. All villagers were forbidden to let rooms to single men and women; all the latter were to be reported to the authorities and cast into prison if they were unwilling to become servants, even if they were employed at any other work, such as sowing seeds for the peasants at a daily wage, or even buying and selling corn. (Imperial privileges and sanctions for Silesia, I., 25.) For a whole century in the decrees of the small German potentates a bitter cry goes up again and again about the wicked and impertinent rabble that will not reconcile itself to its hard lot, will not be content

extended the laws against coalitions of labourers to manufactures. In the manufacturing period *par excellence*, the capitalist mode of production had become sufficiently strong to render legal regulation of wages as impracticable as it was unnecessary; but the ruling classes were unwilling in case of necessity to be without the weapons of the old arsenal. Still, 8 George II. forbade a higher day's wage than 2s. 7½d. for journeymen tailors in and around London, except in cases of general mourning; still, 13 George III., c. 68, gave the regulation of the wages of silk-weavers to the justices of the peace; still, in 1706, it required two judgments of the higher courts to decide, whether the mandates of justices of the peace as to wages held good also for non-agricultural labourers; still, in 1799, an act of Parliament ordered that the wages of the Scotch miners should continue to be regulated by a statute of Elizabeth and two Scotch acts of 1661 and 1671. How completely in the meantime circumstances had changed, is proved by an occurrence unheard-of before in the English Lower House. In that place, where for more than 400 years laws had been made for the maximum, beyond which wages absolutely must not rise, Whitbread in 1796 proposed a legal minimum wage for agricultural labourers. Pitt opposed this, but confessed that the "condition of the poor was cruel." Finally, in 1813, the laws for the regulation of wages were repealed. They were an absurd anomaly, since the capitalist regulated his factory by his private legislation, and could by the poor-rates make up the wage of the agricultural labourer to the indispensable minimum. The provisions of the labour statutes as to contracts between master and workman, as to giving notice and the like, which only allow of a civil action against the contract-breaking master, but on the contrary permit a criminal action against the contract-breaking workman, are to this hour (1873) in full force. The barbarous laws against Trades' Unions fell in

with the legal wage; the individual landed proprietors are forbidden to pay more than the State had fixed by a tariff. And yet the conditions of service were at times better after the war than 100 years later; the farm servants of Silesia had, in 1652, meat twice a week, whilst even in our century, districts are known where they have it only three times a year. Further, wages after the war were higher than in the following century." (G. Freitag.)

1825 before the threatening bearing of the proletariat. Despite this, they fell only in part. Certain beautiful fragments of the old statute vanished only in 1859. Finally, the act of Parliament of June 29, 1871, made a pretence of removing the last traces of this class of legislation by legal recognition of Trades Unions. But an act of Parliament of the same date (an act to amend the criminal law relating to violence, threats, and molestation), re-established, in point of fact, the former state of things in a new shape. By this Parliamentary escamotage the means which the labourers could use in a strike or lock-out were withdrawn from the laws common to all citizens, and placed under exceptional penal legislation, the interpretation of which fell to the masters themselves in their capacity as justices of the peace. Two years earlier, the same House of Commons and the same Mr. Gladstone in the well-known straightforward fashion brought in a bill for the abolition of all exceptional penal legislation against the working-class. But this was never allowed to go beyond the second reading, and the matter was thus protracted until at last the "great Liberal party," by an alliance with the Tories, found courage to turn against the very proletariat that had carried it into power. Not content with this treachery, the "great Liberal party" allowed the English judges, ever complaisant in the service of the ruling classes, to dig up again the earlier laws against "conspiracy," and to apply them to coalitions of labourers. We see that only against its will and under the pressure of the masses did the English Parliament give up the laws against Strikes and Trades' Unions, after it had itself, for 500 years, held, with shameless egoism, the position of a permanent Trades' Union of the capitalists against the labourers.

During the very first storms of the revolution, the French bourgeoisie dared to take away from the workers the right of association but just acquired. By a decree of June 14, 1791, they declared all coalition of the workers as "an attempt against liberty and the declaration of the rights of man," punishable by a fine of 500 livres, together with deprivation of the rights of an active citizen for one year.[1] This law which, by means of State

[1] Article I. of this law runs: "L' anéantissement de toute espèce de corporations

compulsion, confined the struggle between capital and labour within limits comfortable for capital, has outlived revolutions and changes of dynasties. Even the Reign of Terror left it untouched. It was but quite recently struck out of the Penal Code. Nothing is more characteristic than the pretext for this bourgeois coup d'état. "Granting," says Chapelier, the reporter of the Select Committee on this law, "that wages ought to be a little higher than they are, . . . that they ought to be high enough for him that receives them, to be free from that state of absolute dependence due to the want of the necessaries of life, and which is almost that of slavery," yet the workers must not be allowed to come to any understanding about their own interests, nor to act in common and thereby lessen their "absolute dependence, which is almost that of slavery;" because, forsooth, in doing this they injure "the freedom of their ci-devant masters, the present entrepreneurs," and because a coalition against the despotism of the quondam masters of the corporations is—guess what!—is a restoration of the corporations abolished by the French constitution.[1]

CHAPTER XXIX.

GENESIS OF THE CAPITALIST FARMER.

Now that we have considered the forcible creation of a class of outlawed proletarians, the bloody discipline that turned them into wage-labourers, the disgraceful action of the state which employed the police to accelerate the accumulation of capital

du même état et profession étant l'une des bases fondamentales de la constitution française, il est défendu de les rétablir de fait sous quelque prétexte et sous quelque forme que ce soit." Article IV. declares, that if "des citoyens attachés aux mêmes professions, arts et métiers prenaient des délibérations, faisaient entre eux des conventions tendantes à refuser de concert ou à n'accorder qu'à un prix déterminé le secours de leur industrie ou de leurs travaux, les dites délibérations et conventions . . . seront déclarées inconstitutionnelles, attentatoires à la liberté et à la declaration des droits de l'homme, &c.": felony, therefore, as in the old labour-statutes. ("Revolutions de Paris." Paris, 1791, t. III., p. 523.)

[1] Buchez et Roux: "Histoire Parlementaire," t. x., p. 195.

by increasing the degree of exploitation of labour, the question remains: whence came the capitalists originally? For the expropriation of the agricultural population creates, directly, none but great landed proprietors. As far, however, as concerns the genesis of the farmer, we can, so to say, put our hand on it, because it is a slow process evolving through many centuries. The serfs, as well as the free small proprietors, held land under very different tenures, and were therefore emancipated under very different economic conditions. In England the first form of the farmer is the bailiff, himself a serf. His position is similar to that of the old Roman *villicus*, only in a more limited sphere of action. During the second half of the 14th century he is replaced by a farmer, whom the landlord provides with seed, cattle and implements. His condition is not very different from that of the peasant. Only he exploits more wage-labour. Soon he becomes a métayer, a half-farmer. He advances one part of the agricultural stock, the landlord the other. The two divide the total product in proportions determined by contract. This form quickly disappears in England, to give place to the farmer proper, who makes his own capital breed by employing wage-labourers, and pays a part of the surplus product, in money or in kind, to the landlord as rent. So long, during the 15th century, as the independent peasant and the farm-labourer working for himself as well as for wages, enriched themselves by their own labour, the circumstances of the farmer, and his field of production, were equally mediocre. The agricultural revolution which commenced in the last third of the 15th century, and continued during almost the whole of the 16th (excepting, however, its last decade), enriched him just as speedily as it impoverished the mass of the agricultural people.[1]

The usurpation of the common lands allowed him to augment greatly his stock of cattle, almost without cost, whilst they yielded him a richer supply of manure for the tillage of the soil. To this, was added in the 16th century, a very im-

[1] Harrison in his 'Description of England,' says "although peradventure foure pounds of old rent be improved to fortie, toward the end of his term, if he have not six or seven yeares rent lieng by him, fiftie or a hundred pounds, yet will the farmer thinke his gaines verie small."

portant element. At that time the contracts for farms ran for a long time, often for 99 years. The progressive fall in the value of the precious metals, and therefore of money, brought the farmers golden fruit. Apart from all the other circumstances discussed above, it lowered wages. A portion of the latter was now added to the profits of the farm. The continuous rise in the price of corn, wool, meat, in a word of all agricultural produce, swelled the money capital of the farmer without any action on his part, whilst the rent he paid, (being calculated on the old value of money) diminished in reality.[1] Thus they grew rich at the expense both of their labourers and their landlords. No wonder therefore, that England, at the end of the 16th century, had a class of capitalist farmers, rich, considering the circumstances of the time.[1]

[1] On the influence of the depreciation of money in the 16th century, on the different classes of society, see "A Compendious or Briefe Examination of Certayne Ordinary complaints of Diverse of our Countrymen in these our days." By W. S., Gentleman. (London 1581). The dialogue form of this work led people for a long time to ascribe it to Shakespeare, and even in 1751, it was published under his name. Its author is William Stafford. In one place the knight reasons as follows:

Knight: "You, my neighbour, the husbandman, you Maister Mercer, and you Goodman Cooper, with other artificers, may save yourselves metely well. For as much as all things are deerer than they were, so much do you arise in the pryce of your wares and occupations that ye sell agayne. But we have nothing to sell whereby we might advance ye price there of, to countervaile those things that we must buy agayne." In another place the knight asks the doctor: "I pray you, what be those sorts that ye meane. And first, of those that ye thinke should have no losse thereby?—Doctor: I mean all those that live by buying and selling, for as they buy deare, they sell thereafter. Knight: What is the next sort that ye say would win by it? Doctor: Marry, all such as have takings or fearmes in their owne manurance [cultivation] at the old rent, for where they pay after the olde rate they sell after the newe—that is, they paye for theire lande good cheape, and sell all things growing thereof deare. Knight: What sorte is that which, ye sayde should have greater losse hereby, than these men had profit? Doctor: It is all noblemen, gentlemen, and all other that live either by a stinted rent or stypend, or do not manure [cultivation] the ground, or doe occupy no buying and selling."

[2] In France, the régisseur, steward, collector of dues for the feudal lords during the earlier part of the middle ages, soon became an homme d'affaires, who by extortion, cheating, &c., swindled himself into a capitalist. These régisseurs themselves were sometimes noblemen. *E. g.* "C'est li compte que messire Jacques de Thoraine, chevalier chastelain sor Besançon rent ès-seigneur tenant les comptes à Dijon pour monseigneur le duc et comte de Bourgoigne, des rentes appartenant à la dite chastellenie, depuis xxve jour de décembre MCCCLIX jusqu' au xxviiie jour de décembre MCCCLX. (Alexis Monteil: Histoire des Materiaux manuscrits etc., p. 244.) Already it is evident here how in all spheres of social life the lion's share falls to the middleman. In the economic domain, *e.g.*, financiers, stock-exchange speculators,

CHAPTER XXX.

REACTION OF THE AGRICULTURAL REVOLUTION ON INDUSTRY. CREATION OF THE HOME MARKET FOR INDUSTRIAL CAPITAL.

THE expropriation and expulsion of the agricultural population, intermittent but renewed again and again, supplied, as we saw, the town industries with a mass of proletarians entirely unconnected with the corporate guilds and unfettered by them; a fortunate circumstance that makes old A. Anderson (not to be confounded with James Anderson) in his "History of Commerce," believe in the direct intervention of Providence. We must still pause a moment on this element of primitive accumulation. The thinning-out of the independent, self-supporting peasants not only brought about the crowding together of the industrial proletariat, in the way that Geoffroy Saint Hilaire explained the condensation of cosmical matter at one place, by its rarefaction at another.[1] In spite of the smaller number of its cultivators, the soil brought forth as much or more produce, after as before, because the revolution in the conditions of landed property was accompanied by improved methods of culture, greater co-operation, concentration of the means of production, &c., and because not only were the agri-

merchants, shopkeepers skim the cream; in civil matters, the lawyer fleeces his clients; in politics the representative is of more importance than the voters, the minister than the sovereign; in religion God is pushed into the background by the "Mediator," and the latter again is shoved back by the priests, the inevitable middlemen between the good shepherd and his sheep. In France, as in England, the great feudal territories were divided into innumerable small homesteads, but under conditions incomparably more unfavourable for the people. During the 14th century arose the farms or *terriers*. Their number grew constantly, far beyond 100,000. They paid rents varying from $\frac{1}{12}$ to $\frac{1}{6}$ of the product in money or in kind. These farms were fiefs, sub-fiefs, &c., according to the value and extent of the domains, many of them only containing a few acres. But these farmers had rights of jurisdiction in some degree over the dwellers on the soil; there were four grades. The oppression of the agricultural population under all these petty tyrants will be understood. Monteil says that there were once in France 160,000 judges, where to-day 4000 tribunals, including justices of the peace, suffice.

[1] In his Notions de Philosophie Naturelle. Paris, 1838.

cultural wage-labourers put on the strain more intensely,[1] but the field of production on which they worked for themselves, became more and more contracted. With the setting free of a part of the agricultural population, therefore, their former means of nourishment were also set free. They were now transformed into material elements of variable capital. The peasant, expropriated and cast adrift, must buy their value in the form of wages, from his new master, the industrial capitalist. That which holds good of the means of subsistence holds with the raw materials of industry dependent upon home agriculture. They were transformed into an element of constant capital. Suppose, *e.g.*, a part of the Westphalian peasants, who, at the time of Frederic II., all span flax, forcibly expropriated and hunted from the soil; and the other part that remained, turned into day-labourers of large farmers. At the same time arise large establishments for flax-spinning and weaving, in which the men "set free" now work for wages. The flax looks exactly as before. Not a fibre of it is changed, but a new social soul has popped into its body. It forms now a part of the constant capital of the master manufacturer. Formerly divided among a number of small producers, who cultivated it themselves and with their families spun it in retail fashion, it is now concentrated in the hand of one capitalist, who sets others to spin and weave it for him. The extra labour expended in flax-spinning realised itself formerly in extra income to numerous peasant families, or maybe, in Frederic II.'s time, in taxes pour le roi de Prusse. It realises itself now in profit for a few capitalists. The spindles and looms, formerly scattered over the face of the country, are now crowded together in a few great labour-barracks, together with the labourers and the raw material. And spindles, looms, raw material, are now transformed, from means of independent existence for the spinners and weavers, into means for commanding them and sucking out of them unpaid labour.[2] One does not perceive, when looking at the large manufactories and the large farms, that they have

[1] A point that Sir James Steuart emphasises.

[2] "Je permettrai," says the capitalist, "que vous ayez l'honneur de me servir, à condition que vous me donnez le peu qui vous reste pour la peine que je prends de vous commander. (J. J. Rousseau: Discours sur l'Economie Politique.)

originated from the throwing into one of many small centres of production, and have been built up by the expropriation of many small independent producers. Nevertheless, the popular intuition was not at fault. In the time of Mirabeau, the lion of the Revolution, the great manufactories were still called manufactures réunies, workshops thrown into one, as we speak of fields thrown into one. Says Mirabeau : " We are only paying attention to the grand manufactories, in which hundreds of men work under a director and which are commonly called *manufactures réunies.* Those where a very large number of labourers work, each separately and on his own account, are hardly considered ; they are placed at an infinite distance from the others. This is a great error, as the latter alone make a really important object of national prosperity . . . The large workshop (manufacture réunie) will enrich prodigiously one or two entrepreneurs, but the labourers will only be journeymen, paid more or less, and will not have any share in the success of the undertaking. In the discrete workshop (manufacture séparée,) on the contrary, no one will become rich, but many labourers will be comfortable ; the saving and the industrious will be able to amass a little capital, to put by a little for a birth of a child, for an illness, for themselves or their belongings. The number of saving and industrious labourers will increase, because they will see in good conduct, in activity, a means of essentially bettering their condition, and not of obtaining a small rise of wages that can never be of any importance for the future, and whose sole result is to place men in the position to live a little better, but only from day to day . . . The large workshops, undertakings of certain private persons who pay labourers from day to day to work for their gain, may be able to put these private individuals at their ease, but they will never be an object worth the attention of governments. Discrete workshops, for the most part combined with cultivation of small holdings, are the only free ones."[1] The expropriation and eviction of a part of the agricultural population not

[1] Mirabeau, l. c. t. III, pp. 20-109 passim. That Mirabeau considers the separate workshops more economic and productive than the "combined," and sees in the latter merely artificial exotics under government cultivation, is explained by the position at that time of a great part of the continental manufactures.

only set free for industrial capital, the labourers, their means of subsistence, and material for labour; it also created the home market.

In fact, the events that transformed the small peasants into wage-labourers, and their means of subsistence and of labour into material elements of capital, created, at the same time, a home-market for the latter. Formerly, the peasant family produced the means of subsistence and the raw materials, which they themselves, for the most part, consumed. These raw materials and means of subsistence have now become commodities; the large farmer sells them, he finds his market in manufactures. Yarn, linen, coarse woollen stuffs—things whose raw materials had been within the reach of every peasant family, had been spun and woven by it for its own use—were now transformed into articles of manufacture, to which the country districts at once served for markets. The many scattered customers, whom stray artizans until now had found in the numerous small producers working on their own account, concentrate themselves now into one great market provided for by industrial capital.[1] Thus, hand in hand with the expropriation of the self-supporting peasants, with their separation from their means of production, goes the destruction of rural domestic industry, the process of separation between manufacture and agriculture. And only the destruction of rural domestic industry can give the internal market of a country that extension and consistence which the capitalist mode of production requires. Still the manufacturing period, properly so-called, does not succeed in carrying out this transformation radically and completely. It will be remembered that manufacture, properly so-called, conquers but partially the domain of national production, and always rests on the handicrafts of the town and the domestic industry of the rural

[1] "Twenty pounds of wool converted unobtrusively into the yearly clothing of a labourer's family by its own industry in the intervals of other work—this makes no show; but bring it to market, send it to the factory, thence to the broker, thence to the dealer, and you will have great commercial operations, and nominal capital engaged to the amount of twenty times its value. . . . The working class is thus emerced to support a wretched factory population, a parasitical shop-keeping class, and a fictitious commercial, monetary, and financial system. (David Urquhart, l. c. p. 120.)

districts as its ultimate basis. If it destroys these in one form, in particular branches, at certain points, it calls them up again elsewhere, because it needs them for the preparation of raw material up to a certain point. It produces, therefore, a new class of small villagers who, while following the cultivation of the soil as an accessary calling, find their chief occupation in industrial labour, the products of which they sell to the manufacturers directly, or through the medium of merchants. This is one, though not the chief, cause of a phenomenon which, at first, puzzles the student of English history. From the last third of the 15th century he finds continually complaints, only interrupted at certain intervals, about the encroachment of capitalist farming in the country districts, and the progressive destruction of the peasantry. On the other hand, he always finds this peasantry turning up again, although in diminished number, and always under worse conditions.[1] The chief reason is: England is at one time chiefly a cultivator of corn, at another chiefly a breeder of cattle, in alternate periods, and with these the extent of peasant cultivation fluctuates. Modern Industry alone, and finally, supplies, in machinery, the lasting basis of capitalistic agriculture, expropriates radically the enormous majority of the agricultural population, and completes the separation between agriculture and rural domestic industry, whose roots—spinning and weaving—it tears up.[2]

[1] Cromwell's time forms an exception. So long as the Republic lasted, the mass of the English people of all grades rose from the degradation into which they had sunk under the Tudors.

[2] Tuckett is aware that the modern woollen industry has sprung, with the introduction of machinery, from manufacture proper and from the destruction of rural and domestic industries. "The plough, the yoke, were 'the invention of gods, and the occupation of heroes;' are the loom, the spindle, the distaff, of less noble parentage You sever the distaff and the plough, the spindle and the yoke, and you get factories and poorhouses, credit and panics, two hostile nations, agricultural and commercial." (David Urquhart, l. c., p. 122.) But now comes Carey, and cries out upon England, surely not with unreason, that it is trying to turn every other country into a mere agricultural nation, whose manufacturer is to be England. He pretends that in this way Turkey has been ruined, because "the owners and occupants of land have never been permitted by England to strengthen themselves by the formation of that natural alliance between the plough and the loom, the hammer and the harrow." (The Slave Trade, p. 125.) According to him, Urquhart himself is one of the chief agents in the ruin of Turkey, where he had made free trade propaganda in the English interest. The best of it is that Carey, a great Russophile by the way, wants to prevent the process of separation by that very system of protection which accelerates it.

It therefore also, for the first time, conquers for industrial capital the entire home market.[1]

CHAPTER XXXI.

GENESIS OF THE INDUSTRIAL CAPITALIST.

THE genesis of the industrial[2] capitalist did not proceed in such a gradual way as that of the farmer. Doubtless many small guild-masters, and yet more independent small artisans, or even wage-labourers, transformed themselves into small capitalists, and (by gradually extending exploitation of wage-labour and corresponding accumulation) into full-blown capitalists. In the infancy of capitalist production, things often happened as in the infancy of mediæval towns, where the question, which of the escaped serfs should be master and which servant, was in great part decided by the earlier or later date of their flight. The snail's-pace of this method corresponded in no wise with the commercial requirements of the new world-market that the great discoveries of the end of the 15th century created. But the middle ages had handed down two distinct forms of capital, which mature in the most different economic social formations, and which, before the era of the capitalist mode of production, are considered as capital quand même—usurer's capital and merchant's capital.

"At present, all the wealth of society goes first into the possession of the capitalist . . . . he pays the landowner his rent, the labourer his wages, the tax and tithe gatherer their claims, and keeps a large, indeed the largest, and a continually aug-

[1] Philanthropic English economists, like Mill, Rogers, Goldwin, Smith, Fawcett, &c., and liberal manufacturers like John Bright & Co., ask the English landed proprietors, as God asked Cain after Abel, Where are our thousands of freeholders gone? But where do *you* come from, then? From the destruction of those freeholders. Why don't you ask further, where are the independent weavers, spinners, and artizans gone?

[2] Industrial here in contradistinction to agricultural. In the "categoric" sense the farmer is an industrial capitalist as much as the manufacturer.

menting share, of the annual produce of labour for himself. The capitalist may now be said to be the first owner of all the wealth of the community, though no law has conferred on him the right to this property . . . . this change has been effected by the taking of interest on capital . . . . and it is not a little curious that all the lawgivers of Europe endeavoured to prevent this by statutes, viz., statutes against usury. . . . . The power of the capitalist over all the wealth of the country is a complete change in the right of property, and by what law, or series of laws, was it effected?"[1] The author should have remembered that revolutions are not made by laws.

The money capital formed by means of usury and commerce was prevented from turning into industrial capital, in the country by the feudal constitution, in the towns by the guild organisation.[2] These fetters vanished with the dissolution of feudal society, with the expropriation and partial eviction of the country population. The new manufactures were established at sea-ports, or at inland points beyond the control of the old municipalities and their guilds. Hence in England an embittered struggle of the corporate towns against these new industrial nurseries.

The discovery of gold and silver in America, the extirpation, enslavement and entombment in mines of the aboriginal population, the beginning of the conquest and looting of the East Indies, the turning of Africa into a warren for the commercial hunting of black-skins, signalised the rosy dawn of the era of capitalist production. These idyllic proceedings are the chief momenta of primitive accumulation. On their heels treads the commercial war of the European nations, with the globe for a theatre. It begins with the revolt of the Netherlands from Spain, assumes giant dimensions in England's anti-jacobin war, and is still going on in the opium wars against China, &c.

The different momenta of primitive accumulation distribute

[1] "The Natural and Artificial Rights of Property Contrasted." Lond., 1832, pp. 98-99. Author of the anonymous work: 'Th. Hodgskin.'

[2] Even as late as 1794, the small cloth-makers of Leeds sent a deputation to Parliament, with a petition for a law to forbid any merchant from becoming a manufacturer. (Dr. Aikin, l. c.)

themselves now, more or less in chronological order, particularly over Spain, Portugal, Holland, France, and England. In England at the end of the 17th century, they arrive at a systematical combination, embracing the colonies, the national debt, the modern mode of taxation, and the protectionist system. These methods depend in part on brute force, *e.g.*, the colonial system. But they all employ the power of the State, the concentrated and organised force of society, to hasten, hothouse fashion, the process of transformation of the feudal mode of production into the capitalist mode, and to shorten the transition. Force is the midwife of every old society pregnant with a new one. It is itself an economic power.

Of the Christian colonial system, W. Howitt, a man who makes a speciality of Christianity, says: "The barbarities and desperate outrages of the so-called Christian race, throughout every region of the world, and upon every people they have been able to subdue, are not to be paralleled by those of any other race, however fierce, however untaught, and however reckless of mercy and of shame, in any age of the earth."[1] The history of the colonial administration of Holland—and Holland was the head capitalistic nation of the 17th century—"is one of the most extraordinary relations of treachery, bribery, massacre, and meanness."[2] Nothing is more characteristic than their system of stealing men, to get slaves for Java. The men stealers were trained for this purpose. The thief, the interpreter, and the seller, were the chief agents in this trade, native princes the chief sellers. The young people stolen, were thrown into the secret dungeons of Celebes, until they were ready for sending to the slave-ships. An official report says: "This one town of Macassar, *e.g.*, is full of secret prisons, one more horrible than the other, crammed with unfortunates, victims of greed and tyranny fettered in chains, forcibly torn

[1] William Howitt: "Colonisation and Christianity: A Popular History of the Treatment of the Natives by the Europeans in all their Colonies." London, 1838, p. 9. On the treatment of the slaves there is a good compilation in Charles Comte, Traité de la Législation. 3me éd. Bruxelles, 1837. This subject one must study in detail, to see what the bourgeoisie makes of itself and of the labourer, wherever it can, without restraint, model the world after its own image.

[2] Thomas Stamford Raffles, late Lieut.-Gov. of that island: "History of Java and its dependencies." Lond., 1817.

from their families." To secure Malacca, the Dutch corrupted the Portuguese governor. He let them into the town in 1641. They hurried at once to his house and assassinated him, to "abstain" from the payment of £21,875, the price of his treason. Wherever they set foot, devastation and depopulation followed. Banjuwangi, a province of Java, in 1750 numbered over 80,000 inhabitants, in 1811 only 18,000. Sweet commerce!

The English East India Company, as is well known, obtained, besides the political rule in India, the exclusive monopoly of the tea-trade, as well as of the Chinese trade in general, and of the transport of goods to and from Europe. But the coasting trade of India and between the islands, as well as the internal trade of India, were the monopoly of the higher employés of the company. The monopolies of salt, opium, betel and other commodities, were inexhaustible mines of wealth. The employés themselves fixed the price and plundered at will the unhappy Hindus. The Governor-General took part in this private traffic. His favourites received contracts under conditions whereby they, cleverer than the alchemists, made gold out of nothing. Great fortunes sprang up like mushrooms in a day; primitive accumulation went on without the advance of a shilling. The trial of Warren Hastings swarms with such cases. Here is an instance. A contract for opium was given to a certain Sullivan at the moment of his departure on an official mission to a part of India far removed from the opium district. Sullivan sold his contract to one Binn for £40,000; Binn sold it the same day for £60,000, and the ultimate purchaser who carried out the contract declared that after all he realised an enormous gain. According to one of the lists laid before Parliament, the Company and its employés from 1757-1766 got £6,000,000 from the Indians as gifts. Between 1769 and 1770, the English manufactured a famine by buying up all the rice and refusing to sell it again, except at fabulous prices.[1]

The treatment of the aborigines was, naturally, most fright-

[1] In the year 1866 more than a million Hindus died of hunger in the province of Orissa alone. Nevertheless, the attempt was made to enrich the Indian treasury by the price at which the necessaries of life were sold to the starving people.

ful in plantation-colonies destined for export trade only, such as the West Indies, and in rich and well-populated countries, such as Mexico and India, that were given over to plunder. But even in the colonies properly so-called, the Christian character of primitive accumulation did not belie itself. Those sober virtuosi of Protestantism, the Puritans of New England, in 1703, by decrees of their assembly set a premium of £40 on every Indian scalp and every captured red-skin: in 1720 a premium of £100 on every scalp; in 1744, after Massachusetts-Bay had proclaimed a certain tribe as rebels, the following prices: for a male scalp of 12 years and upwards £100 (new currency), for a male prisoner £105, for women and children prisoners £50, for scalps of women and children £50. Some decades later, the colonial system took its revenge on the descendants of the pious pilgrim fathers, who had grown seditious in the meantime. At English instigation and for English pay they were tomahawked by red-skins. The British Parliament proclaimed blood-hounds and scalping as "means that God and Nature had given into its hand."

The colonial system ripened, like a hot-house, trade and navigation. The "societies Monopolia" of Luther were powerful levers for concentration of capital. The colonies secured a market for the budding manufactures, and, through the monopoly of the market, an increased accumulation. The treasures captured outside Europe by undisguised looting, enslavement, and murder, floated back to the mother-country and were there turned into capital. Holland, which first fully developed the colonial system, in 1648 stood already in the acme of its commercial greatness. It was "in almost exclusive possession of the East Indian trade and the commerce between the south-east and north-west of Europe. Its fisheries, marine, manufactures, surpassed those of any other country. The total capital of the Republic was probably more important than that of all the rest of Europe put together." Gülich forgets to add that by 1648, the people of Holland were more overworked, poorer and more brutally oppressed than those of all the rest of Europe put together.

To-day industrial supremacy implies commercial supremacy.

In the period of manufacture properly so-called, it is, on the other hand, the commercial supremacy that gives industrial predominance. Hence the preponderant rôle that the colonial system plays at that time. It was "the strange God" who perched himself on the altar cheek by jowl with the old Gods of Europe, and one fine day with a shove and a kick chucked them all of a heap. It proclaimed surplus-value making as the sole end and aim of humanity.

The system of public credit, *i.e.* of national debts, whose origin we discover in Genoa and Venice as early as the middle ages, took possession of Europe generally during the manufacturing period. The colonial system with its maritime trade and commercial wars served as a forcing-house for it. Thus it first took root in Holland. National debts, *i.e.*, the alienation of the state—whether despotic, constitutional or republican—marked with its stamp the capitalistic era. The only part of the so-called national wealth that actually enters into the collective possessions of modern peoples is—their national debt.[1] Hence, as a necessary consequence, the modern doctrine that a nation becomes the richer the more deeply it is in debt. Public credit becomes the *credo* of capital. And with the rise of national debt-making, want of faith in the national debt takes the place of the blasphemy against the Holy Ghost, which may not be forgiven.

The public debt becomes one of the most powerful levers of primitive accumulation. As with the stroke of an enchanter's wand, it endows barren money with the power of breeding and thus turns it into capital, without the necessity of its exposing itself to the troubles and risks inseparable from its employment in industry or even in usury. The state-creditors actually give nothing away, for the sum lent is transformed into public bonds, easily negotiable, which go on functioning in their hands just as so much hard cash would. But further, apart from the class of lazy annuitants thus created, and from the improvised wealth of the financiers, middlemen between the government and the nation—as also apart from the tax-

[1] William Cobbett remarks that in England all public institutions are designated "royal;" as compensation for this, however, there is the "national" debt.

farmers, merchants, private manufacturers, to whom a good part of every national loan renders the service of a capital fallen from heaven—the national debt has given rise to joint-stock companies, to dealings in negotiable effects of all kinds, and to agiotage, in a word to stock-exchange gambling and the modern bankocracy.

At their birth the great banks, decorated with national titles, were only associations of private speculators, who placed themselves by the side of governments, and, thanks to the privileges they received, were in a position to advance money to the state. Hence the accumulation of the national debt has no more infallible measure than the successive rise in the stock of these banks, whose full development dates from the founding of the Bank of England in 1694. The Bank of England began with lending its money to the Government at 8%; at the same time it was empowered by Parliament to coin money out of the same capital, by lending it again to the public in the form of bank-notes. It was allowed to use these notes for discounting bills, making advances on commodities, and for buying the precious metals. It was not long ere this credit-money, made by the bank itself, became the coin in which the Bank of England made its loans to the state, and paid, on account of the state, the interest on the public debt. It was not enough that the bank gave with one hand and took back more with the other; it remained, even whilst receiving, the eternal creditor of the nation down to the last shilling advanced. Gradually it became inevitably the receptacle of the metallic hoard of the country, and the centre of gravity of all commercial credit. What effect was produced on their contemporaries by the sudden uprising of this brood of bankocrats, financiers, rentiers, brokers, stock-jobbers, &c., is proved by the writings of that time, *e.g.*, by Bolingbroke's.[1]

With the national debt arose an international credit system, which often conceals one of the sources of primitive accumulation in this or that people. Thus the villanies of the Venetian

[1] "Si les Tartares inondaient l'Europe aujourd'hui, il faudrait bien des affaires pour leur faire entendre ce que c'est qu'un financier parmi nous." Montesquieu Esprit des lois, t. iv. p. 33, ed. Londres, 1769.

thieving system formed one of the secret bases of the capital-wealth of Holland to whom Venice in her decadence lent large sums of money. So also was it with Holland and England. By the beginning of the 18th century the Dutch manufactures were far outstripped. Holland had ceased to be the nation preponderant in commerce and industry. One of its main lines of business, therefore, from 1701-1776, is the lending out of enormous amounts of capital, especially to its great rival England. The same thing is going on to-day between England and the United States. A great deal of capital, which appears to-day in the United States without any certificate of birth, was yesterday, in England, the capitalised blood of children.

As the national debt finds its support in the public revenue, which must cover the yearly payments for interest, &c., the modern system of taxation was the necessary complement of the system of national loans. The loans enable the government to meet extraordinary expenses, without the tax-payers feeling it immediately, but they necessitate, as a consequence, increased taxes. On the other hand, the raising of taxation caused by the accumulation of debts contracted one after another, compels the government always to have recourse to new loans for new extraordinary expenses. Modern fiscality, whose pivot is formed by taxes on the most necessary means of subsistence (thereby increasing their price), thus contains within itself the germ of automatic progression. Over-taxation is not an incident, but rather a principle. In Holland, therefore, where this system was first inaugurated, the great patriot, De Witt, has in his "Maxims" extolled it as the best system for making the wage-labourer submissive, frugal, industrious, and overburdened with labour. The destructive influence that it exercises on the condition of the wage-labourer concerns us less however, here, than the forcible expropriation, resulting from it, of peasants, artisans, and in a word, all elements of the lower middle-class. On this there are not two opinions, even among the bourgeois economists. Its expropriating efficacy is still further heightened by the system of protection, which forms one of its integral parts.

The great part that the public debt, and the fiscal system corresponding with it, has played in the capitalisation of wealth and the expropriation of the masses, has led many writers, like Cobbett, Doubleday and others, to seek in this, incorrectly, the fundamental cause of the misery of the modern peoples.

The system of protection was an artificial means of manufacturing manufacturers, of expropriating independent labourers, of capitalising the national means of production and subsistence, of forcibly abbreviating the transition from the mediæval to the modern mode of production. The European states tore one another to pieces about the patent of this invention, and, once entered into the service of the surplus-value makers, did not merely lay under contribution in the pursuit of this purpose their own people, indirectly through protective duties, directly through export premiums. They also forcibly rooted out, in their dependent countries, all industry, as, *e.g.*, England did with the Irish woollen manufacture. On the continent of Europe, after Colbert's example, the process was much simplified. The primitive industrial capital, here, came in part directly out of the state treasury. "Why," cries Mirabeau, "why go so far to seek the cause of the manufacturing glory of Saxony before the war? 180,000,000 of debts contracted by the sovereigns!"[1]

Colonial system, public debts, heavy taxes, protection, commercial wars, &c., these children of the true manufacturing period, increase gigantically during the infancy of Modern Industry. The birth of the latter is heralded by a great slaughter of the innocents. Like the royal navy, the factories were recruited by means of the press-gang. Blasé as Sir F. M. Eden is as to the horrors of the expropriation of the agricultural population from the soil, from the last third of the 15th century to his own time; with all the self-satisfaction with which he rejoices in this process, "essential" for establishing capitalistic agriculture and "the due proportion between arable and pasture land"—he does not show, however, the same economic insight in respect to the necessity of child-stealing and child-slavery for the transformation of manufacturing

[1] Mirabeau, l. c., t. vi., p. 101.

exploitation into factory exploitation, and the establishment of the "true relation" between capital and labour-power. He says: "It may, perhaps, be worthy the attention of the public to consider, whether any manufacture, which, in order to be carried on successfully, requires that cottages and workhouses should be ransacked for poor children; that they should be employed by turns during the greater part of the night and robbed of that rest which, though indispensable to all, is most required by the young; and that numbers of both sexes, of different ages and dispositions, should be collected together in such a manner that the contagion of example cannot but lead to profligacy and debauchery; will add to the sum of individual or national felicity?"[1]

"In the counties of Derbyshire, Nottinghamshire, and more particularly in Lancashire," says Fielden, "the newly-invented machinery was used in large factories built on the sides of streams capable of turning the water-wheel. Thousands of hands were suddenly required in these places, remote from towns; and Lancashire, in particular, being, till then, comparatively thinly populated and barren, a population was all that she now wanted. The small and nimble fingers of little children being by very far the most in request, the custom instantly sprang up of procuring *apprentices* from the different parish workhouses of London, Birmingham, and elsewhere. Many, many thousands of these little, hapless creatures were sent down into the north, being from the age of 7 to the age of 13 or 14 years old. The custom was for the master to clothe his apprentices and to feed and lodge them in an "apprentice house" near the factory; overseers were appointed to see to the works, whose interest it was to work the children to the utmost, because their pay was in proportion to the quantity of work that they could exact. Cruelty was, of course, the consequence. . . In many of the manufacturing districts, but particularly, I am afraid, in the guilty county to which I belong [Lancashire], cruelties the most heart-rending were practised upon the unoffending and friendless creatures who were thus consigned to the charge of master manufacturers;

[1] Eden, l. c., Vol. I., Book II., Ch. I., p. 421.

they were harassed to the brink of death by excess of labour . . . were flogged, fettered and tortured in the most exquisite refinement of cruelty; . . . they were in many cases starved to the bone while flogged to their work and . . . . even in some instances . . . were driven to commit suicide . . . The beautiful and romantic valleys of Derbyshire, Nottinghamshire and Lancashire, secluded from the public eye, became the dismal solitudes of torture, and of many a murder. The profits of manufactures were enormous; but this only whetted the appetite that it should have satisfied, and therefore the manufacturers had recourse to an expedient that seemed to secure to them those profits without any possibility of limit; they began the practice of what is termed "night-working," that is, having tired one set of hands, by working them throughout the day, they had another set ready to go on working throughout the night; the day-set getting into the beds that the night-set had just quitted, and in their turn again, the night-set getting into the beds that the day-set quitted in the morning. It is a common tradition in Lancashire, that the beds *never get cold.*" [1]

With the development of capitalist production during the manufacturing period, the public opinion of Europe had lost the last remnant of shame and conscience. The nations bragged cynically of every infamy that served them as a means

[1] John Fielden, l. c. pp. 5, 6. On the earlier infamies of the factory system, cf. Dr. Aikin (1795) l. c. p. 219, and Gisborne: Enquiry into the Duties of Men, 1795, Vol. II. When the steam-engine transplanted the factories from the country waterfalls to the middle of towns, the "abstemious" surplus-value maker found the child-material ready to his hand, without being forced to seek slaves from the workhouses. When Sir R. Peel, (father of the "minister of plausibility"), brought in his bill for the protection of children, in 1815, Francis Horner, lumen of the Bullion Committee and intimate friend of Ricardo, said in the House of Commons: "It is notorious, that with a bankrupt's effects, a gang, if he might use the word, of these children had been put up to sale, and were advertised publicly as part of the property. A most atrocious instance had been brought before the Court of King's Bench two years before, in which a number of these boys, apprenticed by a parish in London to one manufacturer, had been transferred to another, and had been found by some benevolent persons in a state of absolute famine. Another case more horrible had come to his knowledge while on a [Parliamentary] Committee . . . . that not many years ago, an agreement had been made between a London parish and a Lancashire manufacturer, by which it was stipulated, that with every 20 sound children one idiot should be taken."

to capitalistic accumulation. Read, *e.g.*, the naïve Annals of Commerce of the worthy A. Anderson. Here it is trumpetted forth as a triumph of English statecraft that at the Peace of Utrecht, England extorted from the Spaniards by the Asiento Treaty the privilege of being allowed to ply the negro-trade, until then only carried on between Africa and the English West Indies, between Africa and Spanish America as well. England thereby acquired the right of supplying Spanish America until 1743 with 4800 negroes yearly. This threw, at the same time, an official cloak over British smuggling. Liverpool waxed fat on the slave-trade. This was its method of primitive accumulation. And, even to the present day, Liverpool "respectability" is the Pindar of the slave-trade which—compare the work of Aikin [1795] already quoted—"has coincided with that spirit of bold adventure which has characterised the trade of Liverpool and rapidly carried it to its present state of prosperity; has occasioned vast employment for shipping and sailors, and greatly augmented the demand for the manufactures of the country" (p. 339). Liverpool employed in the slave trade, in 1730, 15 ships; in 1751, 53; in 1760, 74; in 1770, 96; and in 1792, 132.

Whilst the cotton industry introduced child-slavery in England, it gave in the United States a stimulus to the transformation of the earlier, more or less patriarchal slavery, into a system of commercial exploitation. In fact, the veiled slavery of the wage-workers in Europe needed, for its pedestal, slavery pure and simple in the new world.[1]

Tantæ molis erat, to establish the "eternal laws of Nature" of the capitalist mode of production, to complete the process of separation between labourers and conditions of labour, to transform, at one pole, the social means of production and subsistence into capital, at the opposite pole, the mass of the population into wage-labourers, into "free labouring poor," that artificial product of modern society.[2] If

[1] In 1790, there were in the English West Indies ten slaves for one free man, in the French fourteen for one, in the Dutch twenty-three for one. (Henry Brougham: An Inquiry into the Colonial Policy of the European Powers. Edin. 1803, vol. II. p. 74.)

[2] The phrase, "labouring poor," is found in English legislation from the moment

money, according to Augier,[1] "comes into the world with a congenital blood-stain on one cheek," capital comes dripping from head to foot, from every pore, with blood and dirt.[2]

CHAPTER XXXII.

HISTORICAL TENDENCY OF CAPITALIST ACCUMULATION.

WHAT does the primitive accumulation of capital, *i.e.*, its historical genesis, resolve itself into? In so far as it is not immediate transformation of slaves and serfs into wage-labourers, and therefore a mere change of form, it only means the expropriation of the immediate producers, *i.e.*, the dissolution of private property based on the labour of its owner. Private property, as the antithesis to social, collective property, exists only where

when the class of wage-labourers becomes noticeable. This term is used in opposition, on the one hand, to the "idle poor," beggars, etc., on the other to those labourers, who, pigeons not yet plucked, are still possessors of their own means of labour. From the Statute Book it passed into political economy, and was handed down by Culpeper, J. Child, etc., to Adam Smith and Eden. After this, one can judge of the good faith of the "execrable political cant-monger," Edmund Burke, when he called the expression, "labouring poor,"—"execrable political cant." This sycophant who, in the pay of the English oligarchy, played the romantic laudator temporis acti against the French Revolution, just as, in the pay of the North American Colonies, at the beginning of the American troubles, he had played the Liberal against the English oligarchy, was an out and out vulgar bourgeois. "The laws of commerce are the laws of Nature, and therefore the laws of God." (E. Burke, l.c., pp. 31, 32.) No wonder that, true to the laws of God and of Nature, he always sold himself in the best market. A very good portrait of this Edmund Burke, during his liberal time, is to be found in the writings of the Rev. Mr. Tucker. Tucker was a parson and a Tory, but, for the rest, an honourable man and a competent political economist. In face of the infamous cowardice of character that reigns to-day, and believes most devoutly in "the laws of commerce," it is our bounden duty again and again to brand the Burkes, who only differ from their successors in one thing—talent.

[1] Marie Augier: Du Crédit Public. Paris, 1842.

[2] "Capital is said by a Quarterly Reviewer to fly turbulence and strife, and to be timid, which is very true; but this is very incompletely stating the question. Capital eschews no profit, or very small profit, just as Nature was formerly said to abhor a vacuum. With adequate profit, capital is very bold. A certain 10 per cent. will ensure its employment anywhere; 20 per cent. certain will produce eagerness; 50 per cent., positive audacity; 100 per cent. will make it ready to trample on all human laws; 300 per cent., and there is not a crime at which it will scruple, nor a risk it will not run, even to the chance of its owner being hanged. If turbulence and strife will bring a profit, it will freely encourage both. Smuggling and the slave-trade have amply proved all that is here stated." (P. J. Dunning, l. c., p. 35.)

the means of labour and the external conditions of labour belong to private individuals. But according as these private individuals are labourers or not labourers, private property has a different character. The numberless shades, that it at first sight presents, correspond to the intermediate stages lying between these two extremes. The private property of the labourer in his means of production is the foundation of petty industry, whether agricultural, manufacturing, or both ; petty industry, again, is an essential condition for the development of social production and of the free individuality of the labourer himself. Of course, this petty mode of production exists also under slavery, serfdom, and other states of dependence. But it flourishes, it lets loose its whole energy, it attains its adequate classical form, only where the labourer is the private owner of his own means of labour set in action by himself: the peasant of the land which he cultivates, the artizan of the tool which he handles as a virtuoso. This mode of production pre-supposes parcelling of the soil, and scattering of the other means of production. As it excludes the concentration of these means of production, so also it excludes co-operation, division of labour within each separate process of production, the control over, and the productive application of the forces of Nature by society, and the free development of the social productive powers. It is compatible only with a system of production, and a society, moving within narrow and more or less primitive bounds. To perpetuate it would be, as Pecqueur rightly says, "to decree universal mediocrity." At a certain stage of development it brings forth the material agencies for its own dissolution. From that moment new forces and new passions spring up in the bosom of society ; but the old social organization fetters them and keeps them down. It must be annihilated ; it is annihilated. Its annihilation, the transformation of the individualised and scattered means of production into socially concentrated ones, of the pigmy property of the many into the huge property of the few, the expropriation of the great mass of the people from the soil, from the means of subsistence, and from the means of labour, this fearful and painful expropriation of the mass of the people forms the prelude to the history of

capital. It comprises a series of forcible methods, of which we have passed in review only those that have been epoch-making as methods of the primitive accumulation of capital. The expropriation of the immediate producers was accomplished with merciless Vandalism, and under the stimulus of passions the most infamous, the most sordid, the pettiest, the most meanly odious. Self-earned private property, that is based, so to say, on the fusing together of the isolated, independent labouring-individual with the conditions of his labour, is supplanted by capitalistic private property, which rests on exploitation of the nominally free labour of others, *i.e.*, on wages-labour.[1]

As soon as this process of tranformation has sufficiently decomposed the old society from top to bottom, as soon as the labourers are turned into proletarians, their means of labour into capital, as soon as the capitalist mode of production stands on its own feet, then the further socialisation of labour and further transformation of the land and other means of production into socially exploited and, therefore, common means of production, as well as the further expropriation of private proprietors, takes a new form. That which is now to be expropriated is no longer the labourer working for himself, but the capitalist exploiting many labourers. This expropriation is accomplished by the action of the immanent laws of capitalistic production itself, by the centralisation of capital. One capitalist always kills many. Hand in hand with this centralisation, or this expropriation of many capitalists by few, develop, on an ever extending scale, the co-operative form of the labour-process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economising of all means of production by their use as the means of production of combined, socialised labour, the entanglement of all peoples in the net of the world-market, and with this, the international character of the capitalistic régime. Along with the constantly diminishing number

[1] "Nous sommes dans une condition tout-à-fait nouvelle de la société . . . nous tendons à séparer toute espèce de propriété d'avec toute espèce de travail." (Sismondi: Nouveaux Principes de l'Econ. Polit. t. II., p. 434.)

of the magnates of capital, who usurp and monopolise all advantages of this process of transformation, grows the mass of misery, oppression, slavery, degradation, exploitation; but with this too grows the revolt of the working-class, a class always increasing in numbers, and disciplined, united, organised by the very mechanism of the process of capitalist production itself. The monopoly of capital becomes a fetter upon the mode of production, which has sprung up and flourished along with, and under it. Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument. This integument is burst asunder. The knell of capitalist private property sounds. The expropriators are expropriated.

The capitalist mode of appropriation, the result of the capitalist mode of production, produces capitalist private property. This is the first negation of individual private property, as founded on the labour of the proprietor. But capitalist production begets, with the inexorability of a law of Nature, its own negation. It is the negation of negation. This does not re-establish private property for the producer, but gives him individual property based on the acquisitions of the capitalist era: *i.e.*, on co-operation and the possession in common of the land and of the means of production.

The transformation of scattered private property, arising from individual labour, into capitalist private property is, naturally, a process, incomparably more protracted, violent, and difficult, than the transformation of capitalistic private property, already practically resting on socialised production, into socialised property. In the former case, we had the expropriation of the mass of the people by a few usurpers; in the latter, we have the expropriation of a few usurpers by the mass of the people.[1]

[1] The advance of industry, whose involuntary promoter is the bourgeoisie, replaces the isolation of the labourers, due to competition, by their revolutionary combination, due to association. The development of Modern Industry, therefore, cuts from under its feet, the very foundation on which the bourgeoisie produces and appropriates products. What the bourgeoisie therefore, produces, above all, are its own gravediggers. Its fall and the victory of the proletariat are equally inevitable. . . Of all the classes, that stand face to face with the bourgeoisie to-day, the proletariat alone is a

CHAPTER XXXIII.

THE MODERN THEORY OF COLONISATION.[1]

POLITICAL economy confuses on principle two very different kinds of private property, of which one rests on the producers' own labour, the other on the employment of the labour of others. It forgets that the latter not only is the direct antithesis of the former, but absolutely grows on its tomb only. In Western Europe, the home of political economy, the process of primitive accumulation is more or less accomplished. Here the capitalist régime has either directly conquered the whole domain of national production, or, where economic conditions are less developed, it, at least, indirectly controls those strata of society which, though belonging to the antiquated mode of production, continue to exist side by side with it in gradual decay. To this ready-made world of capital, the political economist applies the notions of law and of property inherited from a pre-capitalistic world with all the more anxious zeal and all the greater unction, the more loudly the facts cry out in the face of his ideology. It is otherwise in the colonies. There the capitalist régime everywhere comes into collision with the resistance of the producer, who, as owner of his own conditions of labour, employs that labour to enrich himself, instead of the capitalist. The contradiction of these two diametrically opposed economic systems, manifests itself here practically in a struggle between them. Where the capitalist has at his back the power of the mother-country, he tries to clear out of his way by force, the modes of production and appropriation, based on his independent labour of the producer. The same interest, which compels

really revolutionary class. The other classes perish and disappear in the face of Modern Industry, the proletariat is its special and essential product. . . The lower middle-classes, the small manufacturers, the shopkeepers, the artisan, the peasant, all these fight against the bourgeoisie, to save from extinction their existence as fractions of the middle-class . . . they are reactionary, for they try to roll back the wheel of history. "Karl Marx and Frederick Engels, Manifest der Kommunistischen Partei," London, 1847, pp. 9, 11.

[1] We treat here of real Colonies, virgin soils, colonised by free immigrants. The United States are, speaking economically, still only a Colony of Europe. Besides, to this category belong also such old plantations as those in which the abolition of slavery has completely altered the earlier conditions.

the sycophant of capital, the political economist, in the mother-country, to proclaim the theoretical identity of the capitalist mode of production with its contrary, that same interest compels him in the colonies to make a clean breast of it, and to proclaim aloud the antagonism of the two modes of production. To this end he proves how the development of the social productive power of labour, co-operation, division of labour, use of machinery on a large scale, &c., are impossible without the expropriation of the labourers, and the corresponding transformation of their means of production into capital. In the interest of the so-called national wealth, he seeks for artificial means to ensure the poverty of the people. Here his apologetic armour crumbles off, bit by bit, like rotten touchwood. It is the great merit of E. G. Wakefield to have discovered, not anything new about the Colonies,[1] but to have discovered in the Colonies the truth as to the conditions of capitalist production in the mother-country. As the system of protection at its origin[2] attempted to manufacture capitalists artificially in the mother-country, so Wakefield's colonisation theory, which England tried for a time to enforce by Acts of Parliament, attempted to effect the manufacture of wage-workers in the Colonies. This he calls "systematic colonisation."

First of all, Wakefield discovered that in the Colonies, property in money, means of subsistence, machines, and other means of production, does not as yet stamp a man as a capitalist if there be wanting the correlative—the wage-worker, the other man who is compelled to sell himself of his own free-will. He discovered that capital is not a thing, but a social relation between persons, established by the instrumentality of things.[3] Mr. Peel, he moans, took with him from England to Swan River, West Australia, means of subsistence and of pro-

[1] Wakefield's few glimpses on the subject of Modern Colonisation are fully anticipated by Mirabeau Père, the physiocrat, and even much earlier by English economists.

[2] Later, it became a temporary necessity in the international competitive struggle. But, whatever its motive, the consequences remain the same.

[3] A negro is a negro. In certain circumstances he becomes a slave. A mule is a machine for spinning cotton. Only under certain circumstances does it become capital. Outside these circumstances, it is no more capital than gold is intrinsically money, or sugar is the price of sugar . . . . Capital is a social relation of production.

duction to the amount of £50,000. Mr. Peel had the foresight to bring with him, besides, 3000 persons of the working-class, men, women, and children. Once arrived at his destination, "Mr. Peel was left without a servant to make his bed or fetch him water from the river."[1] Unhappy Mr. Peel who provided for everything except the export of English modes of production to Swan River!

For the understanding of the following discoveries of Wakefield, two preliminary remarks: We know that the means of production and subsistence, while they remain the property of the immediate producer, are not capital. They become capital, only under circumstances in which they serve at the same time as means of exploitation and subjection of the labourer. But this capitalist soul of theirs is so intimately wedded, in the head of the political economist, to their material substance, that he christens them capital under all circumstances, even when they are its exact opposite. Thus is it with Wakefield. Further: the splitting up of the means of production into the individual property of many independent labourers, working on their own account, he calls equal division of capital. It is with the political economist as with the feudal jurist. The latter stuck on to pure monetary relations the labels supplied by feudal law.

"If," says Wakefield, "all the members of the society are supposed to possess equal portions of capital . . . . no man would have a motive for accumulating more capital than he could use with his own hands. This is to some extent the case in new American settlements, where a passion for owning land prevents the existence of a class of labourers for hire."[2] So long, therefore, as the labourer can accumulate for himself—and this he can do so long as he remains possessor of his means of production—capitalist accumulation and the capitalistic mode of production are impossible. The class of wage-labourers, essential to these, is wanting. How, then, in old Europe, was the expropriation of the labourer from his

It is a historical relation of production. (Karl Marx, "Lohnarbeit und Kapital." N. Rh. Z. No. 266, April 7, 1849.)

[1] E. G. Wakefield: England and America, vol. ii., p. 33.

[2] l. c., p. 17.

conditions of labour, *i.e.*, the co-existence of capital and wage-labour, brought about? By a social contract of a quite original kind. "Mankind have adopted a . . . . simple contrivance for promoting the accumulation of capital," which, of course, since the time of Adam, floated in their imagination as the sole and final end of their existence: "they have divided themselves into owners of capital and owners of labour . . . . This division was the result of concert and combination."[1] In one word: the mass of mankind expropriated itself in honour of the "accumulation of capital." Now, one would think, that this instinct of self-denying fanaticism would give itself full fling especially in the Colonies, where alone exist the men and conditions that could turn a social contract from a dream to a reality. But why, then, should "systematic colonisation" be called in to replace its opposite, spontaneous, unregulated colonisation? But—but—"In the Northern States of the American Union, it may be doubted whether so many as a tenth of the people would fall under the description of hired labourers . . . . In England . . . . the labouring class compose the bulk of the people."[2] Nay, the impulse to self-expropriation, on the part of labouring humanity, for the glory of capital, exists so little, that slavery, according to Wakefield himself, is the sole natural basis of Colonial wealth. His systematic colonisation is a mere *pis aller*, since he unfortunately has to do with free men, not with slaves. "The first Spanish settlers in Saint Domingo did not obtain labourers from Spain. But, without labourers, their capital must have perished, or, at least, must soon have been diminished to that small amount which each individual could employ with his own hands. This has actually occurred in the last Colony founded by Englishmen—the Swan River Settlement—where a great mass of capital, of seeds, implements, and cattle, has perished for want of labourers to use it, and where no settler has preserved much more capital than he can employ with his own hands."[3]

We have seen that the expropriation of the mass of the people from the soil forms the basis of the capitalist mode of production. The essence of a free colony, on the contrary, consists in this—that

[1] l. c., vol. i., p. 18. [2] l. c., pp. 42, 43, 44. [3] l. c., vol. ii., p. 5

the bulk of the soil is still public property, and every settler on it therefore can turn part of it into his private property and individual means of production, without hindering the later settlers in the same operation.[1] This is the secret both of the prosperity of the colonies and of their inveterate vice—opposition to the establishment of capital. "Where land is very cheap and all men are free, where every one who so pleases can easily obtain a piece of land for himself, not only is labour very dear, as respects the labourer's share of the produce, but the difficulty is to obtain combined labour at any price."[2]

As in the colonies the separation of the labourer from the conditions of labour and their root, the soil, does not yet exist, or only sporadically, or on too limited a scale, so neither does the separation of agriculture from industry exist, nor the destruction of the household industry of the peasantry. Whence then is to come the internal market for capital? "No part of the population of America is exclusively agricultural, excepting slaves and their employers who combine capital and labour in particular works. Free Americans, who cultivate the soil, follow many other occupations. Some portion of the furniture and tools which they use is commonly made by themselves. They frequently build their own houses, and carry to market, at whatever distance, the produce of their own industry. They are spinners and weavers; they make soap and candles, as well as, in many cases, shoes and clothes for their own use. In America the cultivation of land is often the secondary pursuit of a blacksmith, a miller or a shopkeeper."[3] With such queer people as these, where is the "field of abstinence" for the capitalists?

The great beauty of capitalist production consists in this—that it not only constantly reproduces the wage-worker as wage-worker, but produces always, in proportion to the accumulation of capital, a relative surplus population of wage-workers. Thus the law of supply and demand of labour is kept in the right rut, the oscillation of wages is penned within limits

[1] "Land, to be an element of colonization, must not only be waste, but it must be public property, liable to be converted into private property." (l. c. Vol. II., p 125.)
[2] l. c. Vol. I. p. 247. [3] l. c. pp 21, 22.

satisfactory to capitalist exploitation, and lastly, the social dependance of the labourer on the capitalist, that indispensable requisite, is secured; an unmistakeable relation of dependence, which the smug political economist, at home, in the mother country, can transmogrify into one of free contract between buyer and seller, between equally independent owners of commodities, the owner of the commodity capital and the owner of the commodity labour. But in the colonies this pretty fancy is torn asunder. The absolute population here increases much more quickly than in the mother-country, because many labourers enter this world as ready-made adults, and yet the labour market is always understocked. The law of the supply and demand of labour falls to pieces. On the one hand, the old world constantly throws in capital, thirsting after exploitation and "abstinence;" on the other, the regular reproduction of the wage-labourer as wage-labourer comes into collision with impediments the most impertinent and in part invincible. What becomes of the production of wage-labourers, supernumerary in proportion to the accumulation of capital? The wage-worker of to-day is to-morrow an independent peasant, or artisan, working for himself. He vanishes from the labour-market, but not into the workhouse. This constant transformation of the wage-labourers into independent producers, who work for themselves instead of for capital, and enrich themselves instead of the capitalist gentry, reacts in its turn very perversely on the conditions of the labour-market. Not only does the degree of exploitation of the wage-labourer remain indecently low. The wage-labourer loses into the bargain, along with the relation of dependence, also the sentiment of dependence on the abstemious capitalist. Hence all the inconveniences that our E. G. Wakefield pictures so doughtily, so eloquently, so pathetically.

The supply of wage-labour, he complains, is neither constant, nor regular, nor sufficient. "The supply of labour is always, not only small, but uncertain."[1] "Though the produce divided between the capitalist and the labourer be large, the labourer takes so great a share that he soon becomes a capitalist. . . Few, even of those whose lives are unusually long, can accumu-

[1] l. c., Vol. II., p. 116.

late great masses of wealth." [1] The labourers most distinctly declines to allow the capitalist to abstain from the payment of the greater part of their labour. It avails him nothing, if he is so cunning as to import from Europe, with his own capital, his own wage-workers. They soon "cease . . . to be labourers for hire; they . . . become independent landowners, if not competitors with their former masters in the labour market." [2] Think of the horror! The excellent capitalist has imported bodily from Europe, with his own good money, his own competitors! The end of the world has come! No wonder Wakefield laments the absence of all dependence and of all sentiment of dependence on the part of the wage-workers in the colonies. On account of the high wages, says his disciple, Merivale, there is in the colonies "the urgent desire for cheaper and more subservient labourers—for a class to whom the capitalist might dictate terms, instead of being dictated to by them. . . In ancient civilized countries the labourer, though free, is by a law of nature dependent on capitalists; in colonies this dependence must be created by artificial means." [3]

What is now, according to Wakefield, the consequence of this

[1] l. c., Vol. I., p. 131. [2] l. c., Vol. II., p. 5.

[3] Merivale, l. c., Vol. II., pp. 235-314 passim. Even the mild, free-trade, vulgar economist, Molinari, says: "Dans les colonies où l'esclavage a été aboli sans que le travail forcé se trouvait remplacé par une quantité équivalente de travail libre, on a vu s'opérer la contre-partie du fait qui se réalise tous les jours sous nos yeux. On a vu les simples travailleurs exploiter à leur tour les entrepreneurs d'industrie, exiger d'eux des salaires hors de toute proportion avec la part légitime qui leur revenait dans le produit. Les planteurs, ne pouvant obtenir de leurs sucres un prix suffisant pour couvrir la hausse de salaire, ont été obligés de fournir l'excédant, d'abord sur leurs profits, ensuite sur leurs capitaux mêmes. Une foule de planteurs ont été ruinés de la sorte, d'autres ont fermé leurs ateliers pour échapper à une ruine imminente. . . Sans doute, il vaut mieux voir périr des accumulations de capitaux que des générations d'hommes [how generous of Mr. Molinari!]: mais ne vaudrait-il pas mieux que ni les uns ni les autres périssent?" (Molinari l. c. pp. 51, 52.) Mr. Molinari, Mr. Molinari! What then becomes of the ten commandments, of Moses and the prophets, of the law of supply and demand, if in Europe the "entrepreneur" can cut down the labourer's legitimate part, and in the West Indies, the labourer can cut down the entrepreneur's? And what, if you please, is this "legitimate part," which on your own showing the capitalist in Europe daily neglects to pay? Over yonder, in the colonies where the labourers are so "simple" as to "exploit" the capitalist, Mr. Molinari feels a strong itching to set the law of supply and demand, that works elsewhere automatically, on the right road by means of the police.

unfortunate state of things in the colonies? A "barbarising tendency of dispersion" of producers and national wealth.[1] The parcelling-out of the means of production among innumerable owners, working on their own account, annihilates, along with the centralisation of capital, all the foundations of combined labour. Every long-winded undertaking, extending over several years and demanding outlay of fixed capital, is prevented from being carried out. In Europe, capital invests without hesitating a moment, for the working-class constitutes its living appurtenance, always in excess, always at disposal. But in the colonies! Wakefield tells an extremely doleful anecdote. He was talking with some capitalists of Canada and the state of New York, where the immigrant wave often becomes stagnant and deposits a sediment of "supernumerary" labourers. "Our capital," says one of the characters in the melodrama, "was ready for many operations which require a considerable period of time for their completion; but we could not begin such operations with labour which, we knew, would soon leave us. If we had been sure of retaining the labour of such emigrants, we should have been glad to have engaged it at once, and for a high price: and we should have engaged it, even though we had been sure it would leave us, provided we had been sure of a fresh supply whenever we might need it."[2]

After Wakefield has contrasted the English capitalist agriculture and its "combined" labour with the scattered cultivation of American peasants, he unwittingly gives us a glimpse at the reverse of the medal. He depicts the mass of the American people as well-to-do, independent, enterprising and comparatively cultured, whilst "the English agricultural labourer is a miserable wretch, a pauper. . . In what country, except North America and some new colonies, do the wages of free labour employed in agriculture, much exceed a bare subsistence for the labourer? . . . Undoubtedly, farm-horses in England, being a valuable property, are better fed than English peasants."[3] But, never mind,

[1] Wakefield, l. c., Vol.II., p. 52.
[2] l. c. pp. 191, 192.
[3] l. c., Vol. I., pp. 47, 246.

national wealth is, once again, by its very nature, identical with misery of the people.

How, then, to heal the anti-capitalistic cancer of the colonies? If men were willing, at a blow, to turn all the soil from public into private property, they would destroy certainly the root of the evil, but also—the colonies. The trick is how to kill two birds with one stone. Let the Government put upon the virgin soil an artificial price, independent of the law of supply and demand, a price that compels the immigrant to work a long time for wages before he can earn enough money to buy land, and turn himself into an independent peasant.[1] The funds resulting from the sale of land at a price relatively prohibitory for the wage-workers, this fund of money extorted from the wages of labour by violation of the sacred law of supply and demand, the Government is to employ, on the other hand, in proportion as it grows, to import have-nothings from Europe into the colonies, and thus keep the wage-labour market full for the capitalists. Under these circumstances, tout sera pour le mieux dans le meilleur des mondes possibles. This is the great secret of "systematic colonisation." By this plan, Wakefield cries in triumph, "the supply of labour *must* be constant and regular, because, first, as no labourer would be able to procure land until he had worked for money, all immigrant labourers, working for a time for wages and in combination, would produce capital for the employment of more labourers; secondly, because every labourer who left off working for wages and became a landowner, would, by purchasing land, provide a fund for bringing fresh labour to the colony."[2] The price of the soil imposed by the State must, of course, be a "sufficient price"—*i.e.*, so high "as to prevent the labourers from becoming independent landowners until

[1] "C'est, ajoutez-vous, grâce à l'ap ropriation du sol et des capitaux que l'homme, qui n'a que ses bras, trouve de l'occupation, et se fait un revenu . . . c'est au contraire, grâce à l'appropriation individuelle du sol qu'il se trouve des hommes n'ayant que leurs bras. . . . Quand vous mettez un homme dans le vide, vous vous emparez de l'atmosphère. Ainsi faites-vous, quand vous vous emparez du sol. . . . C'est le mettre dans le vide de richesses, pour ne le laisser vivre qu'à votre volonté." (Colins, l. c., t. III., pp. 268-271, passim.)

[2] Wakefield, l. c., Vol. II., p. 192.

others had followed to take their place."[1] This "sufficient price for the land" is nothing but a euphemistic circumlocution for the ransom which the labourer pays to the capitalist for leave to retire from the wage-labour market to the land. First, he must create for the capitalist "capital," with which the latter may be able to exploit more labourers; then he must place, at his own expense, a *locum tenens* on the labour market, whom the Government forwards across the sea for the benefit of his old master, the capitalist.

It is very characteristic that the English Government for years practised this method of "primitive accumulation," prescribed by Mr. Wakefield expressly for the use of the colonies. The fiasco was, of course, as complete as that of Sir Robert Peel's Bank Act. The stream of emigration was only diverted from the English colonies to the United States. Meanwhile, the advance of capitalistic production in Europe, accompanied by increasing Government pressure, has rendered Wakefield's recipe superfluous. On the one hand, the enormous and ceaseless stream of men, year after year driven upon America, leaves behind a stationery sediment in the east of the United States, the wave of immigration from Europe throwing men on the labour market there more rapidly than the wave of emigration westwards can wash them away. On the other hand, the American Civil War brought in its train a colossal national debt, and, with it, pressure of taxes, the rise of the vilest financial aristocracy, the squandering of a huge part of the public land on speculative companies for the exploitation of railways, mines, &c., in brief, the most rapid centralisation of capital. The great republic has, therefore, ceased to be the promised land for emigrant labourers. Capitalistic production advances there with giant strides, even though the lowering of wages and the dependence of the wage-worker are yet far from being brought down to the normal European level. The shameless lavishing of uncultivated colonial land on aristocrats and capitalists by the Government, so loudly denounced even by Wakefield, has produced, especially in Australia,[2] in conjunc-

[1] l. c., p. 45.

[2] As soon as Australia became her own law-giver, she passed, of course, laws

tion with the stream of men that the gold-diggings attract, and with the competition that the importation of English commodities causes even to the smallest artisan, an ample "relative surplus labouring population," so that almost every mail brings the Job's news of a "glut of the Australian labour-market," and prostitution in some places there flourishes as wantonly as in the London Haymarket.

However, we are not concerned here with the condition of the colonies. The only thing that interests us is the secret discovered in the new world by the political economy of the old world, and proclaimed on the house-tops: that the capitalist mode of production and accumulation, and therefore capitalist private property, have for their fundamental condition the annihilation of self-earned private property; in other words, the expropriation of the labourer.

favourable to the settlers, but the squandering of the land, already accomplished by the English Government, stands in the way. "The first and main object at which the new Land Act of 1862 aims is to give increased facilities for the settlement of the people." (The Land Law of Victoria, by the Hon. C. G. Duffy, Minister of Public Lands. Lond. 1862.)

THE END.

S. Cowan & Co., Strathmore Printing Works, Perth.

WORKS AND AUTHORS QUOTED IN "CAPITAL."

Author.	*Work.*	*Date.*
ABEL, K., and Mecklenburg, F. A.	Arbeiten der Kaiserlich Russischen Gesandtschaft zu Peking über China.	Berlin, 1858.
ADDINGTON, Steph.	Enquiry into the Reasons for or against enclosing Open Fields	London, 1772.
	ABRÉGÉ Elémentaire des Principes d'Économie Politique. (*See* under Anonymous).	
	ADVANTAGES of the East Indian Trade. (*See* under Anonymous)...	
AIKIN, Dr.	Description of the country from thirty to forty miles round Manchester...	London, 1795.
ANONYMOUS.	ABRÉGÉ Élémentaire des Principes de l'Économie Politique. (*See* Garnier, G.)	...Paris, 1796.
,,	ADVANTAGES of the East Indian Trade to England	London, 1720.
,,	CASE, The, of our English Wool, etc.	London, 1685.
,,	COMBINATION, On, of Trades	London, 1834.
,,	CONSIDERATIONS concerning taking off the bounty on Corn exported	...London, 1753.
,,	CURRENCY QUESTION, The	London, 1847.
,,	CURRENCY QUESTION reviewed, The. A Letter to the Scotch People. By a Banker in England	London, 1845.
,,	DEFENCE, A, of the Landowners and Farmers of Great Britain	...London, 1814.
,,	DISCOURSE concerning Trade, that in particular of the East Indies	London, 1689.
,,	DISCOURSE, A, on the general notions of Money, Trade, and Exchange as they stand in relation to each other. By a Merchant	London, 1695.
,,	DISCOURSE, A, on the Necessity of encouraging Mechanick Industry...	London, 1690.
,,	DISSERTATION, A critical, on the Nature, Measure, and Causes of Value. etc. (*See* Bailey S.)	London, 1825.
,,	DISSERTATION on the Poor Laws. By A Well-wisher of Mankind. (*See* Townsend)	London, 1786 (repub. 1817.)

Author.	*Work.*	*Date.*
ANONYMOUS.....	EAST India Trade, The, a most profitable Trade.....	London, 1696.
,,	ECONOMY, Public, concentrated.....	Carlisle, 1833.
,,	ENQUIRY into the connection between the high price of Provisions and the size of Farms. By a Farmer.....	London, 1773.
,,	ENQUIRY into the present high price of Provisions.....	London, 1767.
,,	ENQUIRY into the causes of the present high price of Provisions. (*See* Forster, Nathaniel).....	London, 1773.
,,	ENQUIRY into those principles respecting the nature of Demand as lately advocated by Mr. Malthus.....	London, 1821.
,,	ENQUIRY, A political, into the consequences of enclosing Waste Lands..	London, 1785.
,,	ESSAY, An, on the Governing Causes of the Natural rate of Interest (*See* J. Massey).....	London, 1750.
,,	ESSAY, a prize, on the Comparative merits of Competition and Co-operation....	London, 1834.
,,	ESSAY on Credit and the Bankrupt Act.	London, 1707.
,,	ESSAY on the Political Economy of Nations.....	London, 1821.
,,	ESSAY on Public Credit.....	London, 1710.
,,	ESSAY on Trade and Commerce.....	London, 1770.
,,	ESSAYS on Political Economy in which are illustrated the principal causes of the present National Distress.....	London, 1830.
,,	FARMS, Capital, Two Letters on the Flour Trade, and the dearness of Corn. By a Person in Business.....	London, 1767.
,,	INDUSTRY of Nations, The	London, 1855.
,,	INQUIRY. (*See* Enquiry).	
,,	KRANKHEITEN, Die, welche verschiednen Ständen, Altern und Geschlechtern eigenthümlich sind...	Ulm, 1860.
,,	LABOUR DEFENDED against Capital, by T. H. (*See* Hodgskin)..... ..	London, 1825.
,,	LETTER, A, to Sir J. C. Banbury, Bt., On the high Price of Provisions. By a Suffolk Gentleman	Ipswich, 1795.
,,	MONEY and its Vicissitudes. (*See* S. Bailey).....	London, 1837.
,,	OUTLINES of Political Economy.....	London, 1832.
,,	OBSERVATIONS on certain verbal disputes in Political Economy..... ..	London, 1821.

Author.	*Work.*	*Date.*
Anonymous.	Perils, The, of the Nation	London, 1843.
,,	Principles, Essential, of the Wealth of Nations	London, 1797.
,,	Reasons for the late increase of the Poor Rate	London, 1777.
,,	Reasons for a limited Exportation of Wool	London, 1677.
,,	Remarks on the Commercial Policy of Great Britain	London, 1815.
,,	S. W. A Compendious and Briefe Examination of certayne ordinary complaints of diverse of our countrymen in these our days. (*See* William Stafford)	London, 1581.
,,	Sophisms of Free Trade. By a Barrister	Reprint, 1870. London, 1850.
,,	Source, The, and Remedies of the National Difficulties. A letter to Lord John Russell	London, 1821.
,,	Theory, The, of the Exchanges. The Bank Charter Act of 1844. The abuse of the Metallic Principle to Depreciation	London, 1864.
,,	Thoughts, Some, on the interest of money in general, and particularly in the English Funds	London, 1870.
Appian	De bellis Civilibus.	
Ashley, Anth., Lord.	The Ten Hours' Factory Bill, Speech of the 15th March	London, 1844.
Aristotle	De Republica.	
Augier, Marie.	Du crédit public et de son Histoire depuis les temps anciens jusqu'à nos jours.	Paris, 1842.

B.

Bailey, S.	A Critical Dissertation, etc., chiefly in reference to the writings of Mr. Ricardo	London, 1825.
,,	Money and its Vicissitudes. (Published Anon.)	London, 1837.
Babbage, Charles	On the Economy of Machinery	London, 1832.
Bacon	Life of Henry VII. (Kennet's England).	London, 1817.
	Bank Acts. (*See* Parliamentary Papers).	
Banker, A.	The Currency Question reviewed. A letter to the Scotch people by a Banker in England	London, 1845.
Barbon, Nicolas.	A Discourse on coining the new money lighter, in answer to Mr. Locke's Considerations	London, 1696.

Author.	*Work.*	*Date.*
Barton, John.....	Observations on the circumstances which influence the condition of the Labouring Classes of Society.....	London, 1817.
Barrister, A.....	Sophisms of Free Trade. (*See* under Anonymous).	
Beccaria, Cesare...	Elementi di Economia Pubblica. Custodi's ed. of Italian Economists.....	Milano, 1803.
Bellers, John.....	Essays about the Poor, Manufacturers, Trade, Plantations, and Immorality.	London, 1699.
	Bengal Hurkaru. (*See* under Newspapers).	
Bentham, Jeremy...	Théorie des peines et des récompenses (d'après des manuscrits inédits, ed. by E. Dumont).....	Londres, 1811.
Berkeley, George..	The Querist.....	London, 1750.
Bidaut, J. N.....	Du Monopole qui s'établit dans les arts industriels et le Commerce.....	Paris, 1828.
Biese, F.....	Die Philosophie des Aristoteles.....	Berlin, 1842.
Blakey, Robert.....	The History of Political Literature from the earliest times.....	London, 1855.
Blanqui, J. A.....	Des Classes Ouvrières en France pendant l année, 1848.	
,,	Cours d'économie industrielle.....	Paris, 1835-39.
Boisguillebert.....	Dissertation sur la nature des richesses, de l'argent et des tributs. (Ed. Daire)	Paris, 1843.
Boxhorn.....	Institutiones politicæ.....	Leyden, 1663.
Boyleau, Etienne...	Livres des métiers. (Collection de documents inédits).....	Paris, 1835.
Broadhurst, J.....	Political Economy.....	London, 1842.
Brougham, Henry..	An Inquiry into the Colonial Policy of the European Powers.....	Edinburgh, 1803.
Bruckner, ...	Théorie du système animal.....	Leyden, 1767.
Buchanan, David...	Inquiry into the Taxation and Commercial Policy of Great Britain.....	Edinburgh, 1844.
,,	Smith's Wealth of Nations. With notes and an additional volume.....	London, 1814.
Buchez et Roux.....	Histoire Parlementaire de la Révolution Française.....	Paris, 1834-38.
Burke, Edmund....	Thoughts and details on Scarcity.....	London, 1800.
,,	A Letter from the Right Hon. Ed. Burke, to a noble lord, on the attacks made upon him and his pension in the House of Lords by the Duke of Bedford, etc.....	Philadelphia, 1795 (?)
Butler.....	Hudibras.	

C.

Cairnes, J. E..	The Slave Power.....	London, 1862.

Author.	*Work.*	*Date.*
Campbell, George..	Modern India	London, 1852.
Cantillon, Philip..	Essai sur la nature du Commerce en général	Amsterdam, 1756.
,,	The Analysis of Trade, Commerce, etc. (English translation)	London, 1759.
Card, Ronard de....	Falsification des substances sacramentelles.	
Carey, H. C.	The Slave Trade	Philadelphia, 1853.
,,	Essay on the Rate of Wages	London, 1834.
Carli, G. R.	Notes in his edition of Verri. (*See* Verri)	Milano, 1803.
Cazenove, John.....	Notes in his edition of Malthus' Definitions in Political Economy	London, 1853.
	Census. (*See* Parliamentary Papers)	
Chalmers, Th.	On Political Economy	Glasgow, 1832.
Chamberlain, Jos..	Speech at Sanitary Congress, Birmingham. (*Times*, 15th Jan., 1875).	
Cherbuliez, A. E..	Riche ou pauvre	Paris, 1841.
Cobbett, William...	A History of the Protestant Reformation	Dublin, 1868.
Colins, H.	L'Économie Politique	Paris, 1857.
,,	Combination (On) of Trades. (*See* Anon.)	London, 1834.
	Commissions. (Children's Employment, on Railways, etc. (*See* Parl. Papers).	
	Congress. (International Statistic). Compte rendu	Paris.
Condillac	Le Commerce et le Gouvernement	Paris, 1776.
	Reprinted in : Mélanges de l'Économie Politique. (Ed. Daire et Molinari)	Paris, 1847.
	Considerations concerning taking off the Bounty on Corn exported. (*See* Anonymous)	London, 1753.
Corbet, Th.	An Inquiry into the Causes and Modes of the Wealth of Individuals	London, 1841.
Corbon, C. A.....	De l'enseignement professionnel	Paris, 1858.
Courcelle-Seneuil. J. G.	Traité théorique et pratique des entreprises industrielles	Paris, 1857.
	Currency Question, The. (*See* Anon.).	London, 1847.
	Currency Question, reviewed, The. (*See* Anon.)	London, 1845.
Cuvier, J. L. C.....	Discours sur les Révolutions du Globe. (Ed. Hoefer)	Paris, 1863.

D.

	Daily Telegraph. (*See* Newspapers).	
Darwin, Charles....	Origin of Species	London, 1859.

Author.	*Work.*	*Date.*
	Defence, A, of the landlords and farmers of Great Britain. (*See* Anon.)	London, 1814.
De Quincey, Th.	The Logic of Political Economy	London, 1844.
Descartes, René.	Discours de la Méthode	Paris, 1668.
	Deutsch-Französische Jahrbücher (*See* Marx and Ruge)	Paris, 1844.
Diodorus Siculus.	Bibliotheca Historica.	
	Discourse concerning Trade, etc. (*See* Anonymous)	London, 1689.
	Discourse on the General Notions of Money, etc. (*See* Anon.)	London, 1695.
	Discourse on the necessity of encouraging Mechanick Industry, (*See* Anon.)	London, 1690.
	Dissertation on the Poor Laws, etc. (*See* Anon.)	London, 1786.
Dunning, T. J.	Trades' Unions and Strikes	London, 1860.
Dupont, Pierre	Chansons	Paris, 1846.

E.

	East Indian Trade, etc., (*see* Anon.)	London, 1696.
	Economy, Public, Concentrated, (*see* Anon.)	Carlisle, 1833.
	Economist (*see* under Newspapers).	
Eden, F. M.	The State of the Poor	London, 1797.
Empiricus, Sextus.	Opera.	
Engels, Friedrich.	Lage der arbeitenden Klasse in England	Leipzig, 1845.
,,	Umrisse zu einer Kritik der National-œkonomie (Deutsch-Französische Jahrbücher)	Paris, 1844.
,,	Die Englische Zehn-Stunden-Bill (Neue Rheinische Zeitung April number)	Hamburg, 1850.
Engels, F. & Marx, K.	Manifest der Kommunistischen Partei	London, 1847.
	Enquiry into, etc. (*see* under Anonymous).	
	Essay, etc. (*see* under Anonymous)	...
Ensor, George.	An Inquiry concerning the Population of Nations	London, 1818.

F,

	Factory Acts, Reports of Inspectors, (*see* Parl. Papers).	
Farmer, A.	Enquiry into the Connection, etc., (*see* Enquiry under Anonymous)	London, 1773.
	Farms, Capital, etc., (*see* under Anonymous)	London, 1767.

Author.	*Work.*	*Date.*
Fawcett, Henry	The Economic Position of the British Labourer	London, 1865.
Ferguson, A.	A History of Civil Society, Reprinted.	London, 1850.
Ferrand	Speech in House of Commons. (*see* Hansard).	
Ferrier, F. L. A.	Le gouvernement considéré dans ses rapports avec le commerce	Paris, 1822.
Fielden, J	The Curse of the Factory System	London, 1836.
Fleetwood, Bishop.	Chronicon pretiosum	London, 1707.
Fonterol, A. L.	Hygiène physique et morale de l'ouvrier, etc	Paris, 1858.
Forbonnais, V. de.	Eléments du Commerce. Nouvelle Edition	Leyde, 1766.
Forster, Rev. Nathaniel	An enquiry into the Causes of the present high price of Provisions	London, 1773.
Franklin, Benjamin	Works, (Edited by Sparks),	Boston, 1830-36-40.
Fullarton, John.	Regulation of Currencies	London, 1844.

G.

Galiani, F.	Della Moneta, (Custodi Ed.)	Milano, 1803.
Ganilh, Charles.	Des systèmes de l'économie politique.	Paris, 1821.
Garnier, G.	Abrégé élémentaire des principes de l'économie politique (published anonymously)	Paris, 1796.
Gaskell, P.	The Manufacturing Population of England	London, 1833.
Gentleman, A Suf-folk	Letter to Sir J. C. Banbury on the high price of provisions.	London, 1795.
Genovesi, A.	Lezioni di Economia civile (Custodi Ed.)	Milano, 1803.
Gisbourne	Enquiry into the Duties of Man	London, 1795.
Gladstone, W. E.	See Hansard.	
Gregoir, H.	Les Typographes devant le Tribunal Correctionnel de Bruxelles	Bruxelles, 1865.
Greg, R. H.	The Factory question and the Ten Hours' Bill	London, 1837.
Grove, W. R.	On the Correlation of Physical Forces.	London, 1846.

H.

Haller, C. L. Von.	Restauration der Staatswissenschaften.	Wintherthur, 1820-1834.
Hamm, W.	Die Landwirthschaftlichen Geräthe und Maschinen Englands	Braunschweig, 1856.
Hansard	Parliamentary Debates. Speech of Mr. Ferrand, April 27th, 1863	London, 1863.
,,	Parliamentary Debates. Speech of Mr. Gladstone on the Budget, Feb. 14th, 1843	London, 1843.

Author.	*Work.*	*Date.*
Hansard	Parliamentary Debates. Speech of Mr. Gladstone on the Budget, April, 16th, 1863.	London, 1863.
,,	Parliamentary Debates. Speech of Mr. Gladstone, April 7th, 1864.	London, 1864.
Harris, James, Earl of Malmesbury.	Dialogue concerning Happiness (re-published in "Three Treatises," 1765).	London, 1741
Hassall, Dr. H. H.	Adulterations detected	London, 1857.
Hegel, G. W. F.	Werke.	Berlin, 1832-40.
Hilaire, Geoffroi St.	Notions de Philosophie Naturelle.	Paris, 1838.
Hobbes, Th.	Leviathan. (Works).	London, 1839-44.
Hodgskin, Th.	Labour Defended against Capital. By T. H. (*See* under Anon.)	London, 1825.
,,	Natural and Artificial Rights, The, of Property Contrasted. (Anonymous).	London, 1832.
Hollinshed	Description of England.	
Homer	Iliad and Odyssey.	
Hopkins, Th.	On Rent of Land	London, 1828.
Horne, Geo.	A Letter to Adam Smith, LL.D., On the Life, Death and Philosophy of his Friend, David Hume.	Oxford, 1784.
Horner, Leonard	A Letter to Mr. Senior, etc.	London, 1837.
Houghton, John	Husbandry and Trade Improved	London, 1727
Howitt, William	Colonization and Christianity	London, 1838.
Hutton, C.	Course of Mathematics	Reprint, London, 1841-43.

I.

	Industry of Nations. (*See* Anonymous)	London, 1855.
	Inquiry. (*See* Enquiry under Anon.).	
	International Statistic Congress, Compte rendu	Paris.
Isocrates	Orationes et Epistolae.	

J.

Jones, Richard	An Essay on the Distribution of Wealth. Part I., On Rent.	London, 1831.
,,	An Introductory Lecture on Political Economy.	London, 1833.
,,	Text Book of Lectures on the Political Economy of Nations.	Hertford, 1852.
,,	Journal of the Society of Arts. (*See* under newspapers).	

K.

	Krankheiten, Die, welche verschiedenen Ständen, Altern und Geschlechtern eigenthumlich sind	Ulm, 1860.

Author.	*Work.*	*Date.*

L.

Laborde, A. de	De l'esprit de l'association dans tous les interéts de la communauté.	Paris, 1818.
Labour	defended. (*See* Hodgskin).	
Labourers,	(Agricultural) Ireland. (*See* Parliamentary Papers).	
Laing, S.	National Distress, etc	London, 1844.
Lancellotti, Abb.	Farfalloni de gli Antichi Historici	Venetia, 1636.
Lassalle, Ferdin.	Die Philosophie des Herakleitos.	Berlin, 1858.
Lavergne, Léonce de	Essai sur l'économie rurale de l'Angleterre.	Paris, 1858.
Law, J.	Considérations sur le numéraire et sur le Commerce. (Ed. Daire).	Paris, 1843.
Letter,	A, to Sir J. C. Banbury, etc. By a Suffolk gentleman. (*See* Anonymous).	Ipswich, 1795.
Le Trosne.	De l'intérêt Social. (Ed. Daire).	Paris, 1846.
Levi, Leone	Lecture before the Society of Arts, April, 1866. (*See* Newspapers)	London, 1866.
Liebig, J. von	Die Chemie in ihrer Anwendung auf Agrikultur	Braunschweig, 1862.
,,	Ueber Theorie und Praxis in der Landwirthschaft.	Braunschweig, 1856
Linguet, N.	Théorie des loix civiles	Londres, 1767.
Locke, John	Some Considerations on the Consequences of the Lowering of Interest. (Works, Vol. II.)	London, 1777.
Lords	(House of) Committee on Bank Acts. (*See* Parliamentary Papers).	
Lucretius.	De Rerum Naturâ.	
Luther, Martin	An die Pharhernn, wider den Wucher zu predigen.	Wittenberg, 1540.

M.

Macaulay, Thos. B.	History of England. 10th Edit.	London, 1854.
Maclaren, James	History of the Currency	London, 1858.
Macleod, H. D.	Theory and Practice of Banking.	London, 1855.
M'Culloch, J. R.	A Dictionary, Practical, &c., of Commerce.	London, 1847.
,,	The Literature of Political Economy.	London, 1845.
,,	Principles of Political Economy	London, 1830.
Malthus, T. R.	Definitions in Political Economy	London, 1827.
,,	Inquiry into the Nature and Progress of Rent.	London, 1815.
Malthus, T. R.	Principles of Political Economy.	London, 1836.
Mandeville, B. de.	Fable of the Bees	London, 1728.

Author.	*Work.*	*Date.*
Martineau, Harriet	The Manchester Strike.....	(?) 1842.
Marx, Karl, and Engels, F.	Manifest der Kommunistischen Partei.	London, 1847.
Marx, Karl, and Ruge, A.	Deutsch-französische Jahrbücher.	Paris, 1844.
Marx, Karl.	Lohnarbeit und Kapital. (Neue Rheinische Zeitung, 7th April.).....	Köln, 1849.
,,	Misère de la philosophie: Réponse à la philosophie de la misère de M. Proudhon.....	Paris, 1847.
,,	Zur Kritik der Politischen Œkonomie.	Berlin, 1859.
Massey, J.	An Essay on the Governing Causes of the Natural Rate of Interest. (Pub. Anon.).....	London, 1750.
	Master Spinners and Manufacturers Defence Fund. (*See* Report.).	
Maurer	Geschichte der Fronhöfe.....	Erlangen, 1862.
,,	Einleitung zur Geschichte der Mark-verfassung.....	München, 1854.
Mercier de la Rivière.	(*See* Rivière.).	
Merchant, A.	A Discourse on the General Notions of Money, &c. (*See* under Anonymous).	London, 1695.
Merivale, H.	Lectures on Colonization and Colonies.	London, 1841.
Mill, James.	Article "Colony," Supplement of Encyclopædia Britannica.....	Edinburgh, 1831.
,,	Elements of Political Economy.....	London, 1821.
Mill, John Stuart.	Essays on some Unsettled Questions of Political Economy.....	London, 1844.
,,	Principles of Political Economy.....	London, 1848.
Mirabeau.	De la Monarchie Prussienne.....	Londres, 1788.
Molinari, G. de.	Etudes Économiques.....	Paris, 1846.
Mommsen, Th.	Römische Geschichte.....	Berlin, 1856.
	Money and its Vicissitudes. (*See* S. Bailey. Pub. Anon.)	London, 1837.
Monteil, Alexis.	Histoire des Matériaux manuscrits, &c.....	Paris, 1835.
Montesquieu	Esprit des Lois. Œuvres.....	Londres, 1767.
More, Thomas.	Utopia.	
	Morning Star. (*See* under Newspapers)	
Morton, J. C.	Article Labourer in Cyclopædia of Agriculture.	
	Paper read before the Society of Arts Jan. 1861.	
	Morning Star. (*See* under Newspapers).	
Mun, Th.	England's Treasure by Foreign Trade.	London, 1669.
Murphy	Ireland, Industrial, Political, and Social.....	London, 1870.

Author.	*Work.*	*Date.*
Murray, Hugh, Wilson, etc.	Historic and descriptive account of British India	Edinburgh, 1832.

N.

Nasmith	Speech at Trades' Union Commission, 1851	London, 1851.
Newman, S. P.	Elements of Political Economy	New York, 1835.
Newman, W. F	Lectures on Political Economy	London, 1851.
Newnham, G. B.	A Review of the Evidence before the Committee of the two Houses of Parliament on the Corn Laws	London, 1815.
Newspapers	Newspapers and journals, etc.	
	Bengal Hurkaru. Bi-monthly Overland Summary of news, July 22nd.	Calcutta (?) 1861.
	Daily Telegraph, Jan. 7th	London, 1860.
	Economist, July, 19th	London, 1859.
	,, Janr., 21st	London, 1860.
	,, June, 2nd	London, 1866.
	Journal of the Society of Arts	London.
	,, January, 1861.	
	,, January, 1872.	
	,, April, 1866, etc.	
	Morning Star, April 17th	London, 1863.
	,, ,, June 23rd	London, 1863.
	Observer, April 24th	London, 1864.
	Revolutions de Paris	Paris, 1789-94.
	Reynolds' Newspaper, Jan	London, 1860.
	,, ,, Feb	London, 1866.
	,, ,, Jan. 20th	London, 1867.
	Spectator, June	London, 1866 (?)
	Standard	London, 1865 (?)
	,, Oct. 26th	London, 1861.
	Times, Nov. 5th	London, 1861.
	,, Nov. 26th	London, 1862.
	,, Nov. 29th	London, 1862.
	,, March 24th	London, 1863.
	,, Sept. 9th	London, 1873.
	Workman's Advocate, Jan. 1866	London, 1866.
Niebuhr, G. B.	Römische Geschichte (reprinted)	Berlin, 1853.
North, Sir Dudley.	Discourses upon Trade	London, 1691.

O.

	Observations on certain verbal disputes. (*See* Anonymous)	London, 1821.
	Observer. (*See* Newspapers).	
Olmsted, F.	Sea board Slave States	New York, 1856.
Opdyke, G.	A treatise on Political Economy	New York, 1851.
Ortes, G.	Della Economia libri sei (Ed. Custodi).	Milano, 1803.

Author.	*Work.*	*Date.*
Otway, J.H.	Judgment of J. H. Otway, Hilary Sessions, Belfast.	
Owen, Robert	Observations on the Effects of the Manufacturing System	London, 1817.

P.

Pagnini, L.A.	Saggio sopra il giusto pregio delle cose. (Ed. Custodi)	Milano, 1803.
Parliamentary Papers.	Agricultural Labourers, (Ireland) 1862.	
	Census for Great Britain, Ireland and Wales, 1863, etc.	
	Children's Employment Commission Factory Regulation Acts, 1859.	
	House of Commons Committee, 1826.	
	House of Lords Committee on Bank Act, 1848.	
	Reports on Bank Acts, 1857	
	" of Select Committee on Bank Acts, 1858.	
	Reports of Select Committee on Mines, 1866.	
	Reports of Commissioners of H. M.'s Inland Revenue. (Fourth & Tenth).	
	Reports of Commissioners relating to Transportation and Penal Servitude. (1863).	
	Reports of Foreign Office. (Howard de Welden)..	
	Reports of Inspectors of Factories.	
	Reports of Royal Commission on the Grievances of the Journeymen Bakers. (1862).	
	Reports from the Poor Law Inspectors on the Wages of Agricultural Labourers in Dublin. (1870).	
	Reports on Public Health.	
	Reports of the Registrar General.	
	Reports of H. M. Secretaries of Embassies and Legations on Manufactures. (1863).	
	Statistical Abstract for the United Kingdom. (1861 and 1866).	
	Statistics (Miscellaneous) of the United Kingdom. (1866).	
Parry, C H.	The Question of the Necessity of the Existing Corn Laws Considered	London, 1816.

Author.	*Work.*	*Date.*
Person in Business, A.	Capital Farms. (*See* under Anon.)	London, 1767.
Petty, William	Political Anatomy of Ireland and Verbum Sapienti	London, 1691.
,,	Quantulumcunque concerning Money.	London, 1695.
,,	A Treatise on Taxes and Contributions.	London, 1662.
,,	Verbum Sapienti. (*See* Political Anatomy of Ireland).	
Pinto, Isaac.	Traité de la Circulation et du Crédit	Amsterdam, 1771.
Plato.	De Republica.	
Postlethwayt, M.	First Preliminary Discourse.	London.
Price, Richard.	Observations on Reversionary Payments.	London, 1803.
,,	Universal Dictionary of Trade and Commerce.	London.
,,	Great Britain's Commercial Interest Explained.	London, 1755.
Proudhon.	Oeuvres.	Paris.

Q.

Quesnay, Dr. F.	Dialogue sur le Commerce. (Ed. Daire).	Paris, 1846.
	Maximes Générales. (Ed. Daire).	Paris, 1846.

R.

Raffles, Th. Stamford.	History of Java.	London, 1817.
Ramazzini.	De morbis artificum (1713). French translation in "Encyclopédie des Sciences Médicales."	Paris, 1841.
Ramsay, G.	An Essay on the Distribution of Wealth.	Edinburgh, 1836.
Ravenstone, P.	Thoughts on the Funding System and its Effects.	London, 1824.
Read, George.	History of Baking.	London, 1848.
Redgrave, A.	Report of Speech in Journal of the Society of Arts. (Jan., 1872).	
Regnault, E.	Histoire politique et sociale des Principautés Danubiennes.	Paris, 1855.
Reich, Eduard.	Ueber die Entartung des Menschen.	Erlangen, 1868.
	Report of the Committee of the Master Spinners and Manufacturers Defence Fund.	Manchester, 1854.
	Report of Social Science Congress, Edinburgh, Oct., 1863	
	Reports (Inspectors of Factories, Health, etc. *See* under Parliamentary Papers.)	

Author.	*Work.*	*Date.*
	RESOLUTION of Working Men of Dunkirk	New York, 1866.
	REVOLUTIONS de Paris. (*See* under Newspapers)	
	REYNOLDS' Newspapers. (*See* under Newspapers).	
RICARDO, David	Principles of Political Economy	London, 1821.
RICHARDSON, B. W.	Work and Overwork. (Social Science Review, July, 1863)	London, 1863.
RIVIÈRE, Mercier de la	(*See* Mercier).	
RODBERTUS-JAGETZOW, C.	Soziale Briefe an Kirchmann	Berlin, 1850.
	Briefe, etc., Edited by Dr. R. Meyer	Berlin, 1881.
ROGERS, James E. Thorold	A History of Agriculture and Prices	Oxford, 1866.
ROSCHER, W.	Grundlagen der Nationalœkonomie	Berlin, 1858.
ROSSI, P.	Cours d'Économie Politique	Bruxelles, 1842.
ROUSSEAU, Jean-Jacques	Discours sur l'Économie Politique	Genève, 1765.
ROUX et Buchez	(*See* Buchez).	

S.

SAINT-HILAIRE, Geoffroi	Notions de Philosophie Naturelle	Paris, 1838.
SAY, J. B.	Lettres à M. Malthus	Paris, 1820.
,,	Traité de l'Économie Politique	Paris, 1841.
SCHOUW, F.	Die Erde, die Pflanze und der Mensch	Leipzig, 1854.
SCHULZ, Wilhelm	Die Bewegung der Produktion	Zürich, 1843.
SCROPE, G. P.	Political Economy (Edited by A. Potter)	New York, 1541.
SENIOR, William Nassau	Journals, Conversations and Essays relating to Ireland	London, 1868.
,,	Letters on the Factory Acts	London, 1837.
,,	Principes Fondamentaux de l'Économie Politique (French translation by Arrivabene)	Paris, 1836.
,,	Three Lectures on the Rate of Wages	London, 1830.
SHAKESPEARE, Wm.	Works.	
SISMONDI, Simonde de	Études d'Économie Politique	Paris, 1837.
,,	Nouveaux Principes de l'Économie Politique	Paris, 1819.
,,	De la Richesse Commerciale	Genève, 1803.
SKARBEK, F.	Théorie des Richesses Sociales	Paris, 1829.
SMITH, Adam	Wealth of Nations	Aberdeen, 1848.
	SOCIAL SCIENCE Congress. (*See* under Report).	

Author.	*Work.*	*Date.*
	Society of Arts, Journal of. (*See* under Newspapers).	
	Society of Arts, Commission of Inquiry into Industrial Pathology.....	
Somers, Robert.....	Letters from the Highlands, on the Famine of 1847.....	London, 1848.
Sophocles.....	Antigone.	
	Spectator. (*See* under Newspapers).	
Stafford, William.	A Compendious and Briefe Examination of certayne ordinary complaints of diverse of our countrymen in these our days. (Publ. Anon.).....	London, 1581.
	Standard. (*See* under Newspapers).	
	Statistics. (*See* under Parliamentary Papers).	
	Statutes, General, of Massachusetts.	
	Statutes, Revised of Rhode Island...	
	Statute, Decree of Philippe de Valois, 1346.	
Steuart, Sir Jas....	Principles of Political Economy.....	Dublin, 1770.
,,	Works	London, 1805.
Stewart, Dugald...	Works. (Edited by Sir William Hamilton).....	Edinburgh, 1855.
Stolberg, Christian.	Gedichte aus dem Griechischen.....	Hamburg, 1782.
Storch, H. F.....	Cours d'Économie Politique.....	St. Petersburg, 1815.
Strype.	Annals of the Reformation.....	London, 1725.

T.

	Times. (*See* under Newspapers)..	
Thiers, Adolphe....	De la propriété.....	Paris, 1848.
Thompson, Benj.....	Essays, Political, Economical and Philosophical, etc.....	London, 1796-1802.
Thompson, W.....	An Inquiry into the principles of the distribution of Wealth.....	London, 1824.
Thornton, W. T...	Over-population and its Remedy.....	London, 1864.
Thucidydes.....	De Bello Peloponnesiaco..	
Thünen, J. H. von...	Der isolirte Staat.....	Rostock, 1863.
Tooke, Thos.....	...History of Prices (partly Ed. by W. Newmarch)..	London, 1853-57.
Torrens, R.....	An Essay on the External Corn Trade.....	London, 1815.
,,	An Essay on the Production of Wealth.....	London, 1821.
,,	On Wages and Combinations.....	London, 1834.
Townsend, W.....	Dissertation on the Poor Laws, etc. (*See* under Anomymous).....	London, 1817.
Tracy, Destutt de...	Traité de la Volonté et de ses Effets..	Paris, 1823.
	Trades' Union Commission.	

HB501
M35
v.2

Author.	*Work.*	*Date.*
Tuckett, J. D.	A History of the Past and Present State of the Labouring Population.	London, 1846.
Turgot	Réflexions sur la formation et la distribution des richesses	Paris, 1844.

U.

Ure, Andrew	Philosophy of Manufactures	London, 1835.
Urquhart, David	Familiar Words	London, 1858.
,,	Portfolio, New Series, (*see* under Newspapers).	

V.

Vanderlint, Jas.	Money answers all things	London, 1734.
Verri, Pietro	Meditazioni sulla Economia politica, (Ed. Custodi)	Milano, 1803.
Vissering, S.	Handboek van pratische Staatshuishoudkunde	Amsterdam, 1860-62.

W.

Wade, John	History of the Middle and Working Classes	London, 1833.
Wakefield, E. G.	England and America	London, 1833.
,,	Notes in his ed. of Smith's Wealth of Nations	London, 1835.
,,	A view of the Art of Colonization	London, 1849.
Ward, John	History of the Borough of Stoke-upon-Trent	London, 1843.
Watson, S.	(*See* under Society of Arts).	
Watts, John	Facts and Fictions of Political Economists	Manchester, 184-
,,	Trade Societies and Strikes	Manchester, 1865.
Wayland, F.	Elements of Political Economy	London, 1856.
West, Edward	Price of Corn and Wages of Labour.	London, 1826.
Wilks, Mark	Historical Sketches of the South of India	London, 1810-17.
	Workman's Advocate, (*see* under Newspapers).	
Wright, Thomas	Short Address to the Public on the Monopoly of large Farms.	London, 1779,

X.

Xenophon	Cyropædia.	

Y.

Young, Arthur	Political Arithmetic	London, 1774.